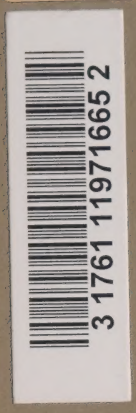

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Report on Tobacco and Cigarette Smoking 1969-1970.

CANADA

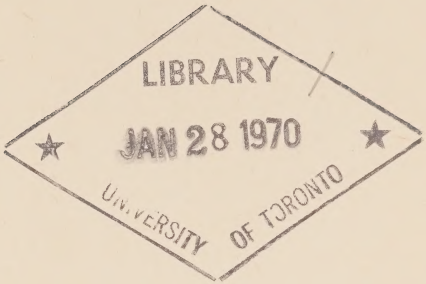
HOUSE OF COMMONS

REPORT OF THE STANDING COMMITTEE ON HEALTH, WELFARE AND SOCIAL AFFAIRS ON TOBACCO AND CIGARETTE SMOKING

PRESENTED BY

CHAIRMAN — M. GASTON ISABELLE

SESSION 1969-1970



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The Standing Committee on Health, Welfare and Social Affairs has the honour to present its

FIRST REPORT

On November 14, 1969, your Committee received the following Order of Reference:

> "*Ordered*,—That the Standing Committee on Health, Welfare and Social Affairs be empowered to study the subject-matter of tobacco advertising;
>
> That the Orders for second reading of Bills C-34, C-69 and C-70 be discharged, and the subject-matter thereof be referred to the Committee; and
>
> That the evidence adduced by the Committee in its study of the subject-matter of Bills C-39, C-45, C-53, C-134, C-137, and C-147 in the First Session of the Twenty-Eighth Parliament be referred to the Committee."

At the first Committee meeting on November 18, Dr. Gaston Isabelle and Mr. Steve Otto were elected Chairman and Vice-Chairman respectively.

Your Committee held 28 formal meetings during the last session and presented, on June 27, 1969, as the Committee's Twelfth Report, a progress report of its study of the subject-matter of Bills relating to tobacco and cigarette smoking.

This report is included in the Committee's Minutes of Proceedings and Evidence No. 44 of the first session of the Twenty-Eighth Parliament, and a copy of the Minutes of Proceedings and Evidence relating to this matter, tabled with the Interim Report, is recorded as Appendix 115 to the Journals of the House.

In addition to the briefs presented and the witnesses heard last session and which are listed in the above report, your Committee was privileged to hear, on November 20, 1969, Dr. Daniel Horn, Ph.D., National Director, Clearing House for Smoking and Health of the United States Public Health Service.

Your Committee is grateful to those who gave evidence and to the associations and organizations who presented well documented briefs.

Your Committee also wishes to thank the personnel of the Committees and Private Legislation Branch and the other supporting services for their assistance.

TABLE OF CONTENTS

CIGARETTE SMOKING — PAGE

1. The Health Question and The Basis for Action 7

2. The Conclusions of Experts 10
   (*a*) Conflicting Evidence 13
   (*b*) Community and Occupational Air Pollution 17
   (*c*) Multiple Causes 19
   (*d*) Weighing the Evidence 20

3. The Risks of Smoking 22

4. Pipe and Cigar Smoking 26

5. The Benefits of Smoking 26

6. Its Contribution to the National Economy 27

7. The Reduction of Cigarette Smoking 30

RECOMMENDATIONS

A. Eliminating the Promotion of Cigarette Sales 32
   (i) Cigarette Advertising 32
   (ii) Coupon and Premium Schemes 36
   (iii) Free Distribution of Cigarettes 37

B. Increasing Educational Efforts to Discourage Cigarette Smoking 38
   (i) Smoking and Health Programs 38
   (ii) Cautionary Statements on Cigarette Packages and in Cigarette Advertisements 39

C. Less Hazardous Smoking 41
   (i) Maximum Tar and Nicotine Levels 43
   (ii) Publication of Tar and Nicotine Tables 43
   (iii) Statements of Cigarette Smoke Constituents 43
   (iv) Other Ways to reduce the Hazards of Cigarette Smoking 44
   (v) Pipe and Cigar Smoking 45
   (vi) Research Into Less Hazardous Products and Ways to Smoke 45

98577—2

PAGE

D. Miscellaneous 46

(i) The Identification of Those Who Have Been Harmed, Or Have a Particular Risk of Being Harmed, by Smoking 46

(ii) The Exemplar Role 47

(iii) Non-Smoking Areas 48

(iv) The Ready Availability of Cigarettes 48

E. Assistance to Tobacco Growers and Workers in the Tobacco Industry 48

F. Fires Caused by Smoking 49

G. Urging all levels of governments to implement the recommendations contained in this report on matters falling within their jurisdiction 50

I - SUMMARY OF RECOMMENDATIONS 50

II - SUMMARY OF RECOMMENDED LEGISLATION 52

1

CIGARETTE SMOKING—THE HEALTH QUESTION AND THE BASIS FOR ACTION

The Committee heard testimony and considered published evidence of the Department of National Health and Welfare as well as major professional and voluntary health organizations and individual authorities to the effect that cigarette smoking is now considered by experts to be one of the most important causes of preventable illness and death in Canada. This conclusion has been derived from hundreds of studies of various kinds in different countries of the world and there is no substantial body of informed health opinion or consistent scientific evidence that disputes this conclusion.

The Committee also heard testimony from individual witnesses, most of whom appeared at the request of the Canadian tobacco industry, to the effect that further evidence was required before the association between smoking and disease could be considered to have causal significance. These witnesses dealt with possible alternative explanations such as changing diagnostic accuracy and fashions in medicine, selectivities of various kinds in epidemiological studies and certain inconsistencies in the data. These possibilities have been recognized by health authorities reviewing the continually accumulating evidence of the hazards and were dealt with in such major reviews of the world-wide evidence as the United States Surgeon General's 1964 Report on Smoking and Health. There appears to be decreasing reason to conclude that possible alternative explanations could account for a substantial portion of the realtionship between cigarette smoking and disease.

Because of the complexities of this problem and the conflicting evidence presented to the Committee regarding the association between cigarette smoking and disease, the Committee considered it was important to examine the health issue thoroughly, particularly with respect to the importance of statistics, the nature of scientific evidence, and the balance of the expert testimony. The Committee recognizes, however, that it is not a scientific body and must place considerable reliance on the judgments of scientific authorities.

THE BASIS FOR ACTION

In addition to major Canadian health organizations, including the Department of National Health and Welfare, the Canadian Cancer Society, the National Cancer Institute of Canada, the Canadian Heart Foundation, the Canadian Tuber-

98577—2½

culosis and Respiratory Disease Association, L'Association des Médecins de langue française du Canada and the Canadian Medical Association, concern about the cigarette smoking problem is shared by health authorities in other countries, including Britain, the United States of America, Norway, Sweden, Denmark, Holland, West Germany, Italy, Ireland, Czechoslovakia, Russia, Japan, India, Poland, Australia and New Zealand.

There is room for argument regarding the precise magnitude of the problem but it is undoubtedly very large. The Department of National Health and Welfare has estimated that lung cancer, chronic bronchitis, emphysema, and coronary heart disease to the extent they are attributed to smoking, caused 5,900 deaths before age 65, 29,000 cases of illness treated by physicians, and 755,000 patient-days in hospital in 1966. A total of approximately 13,800 deaths were attributed to smoking in that year.[1]

It can be concluded that the avoidance of cigarette smoking is by far the most effective way to prevent most cases of lung cancer and chronic bronchitis and emphysema. In the case of coronary heart disease where there are several important contributory factors, the avoidance of cigarette smoking is probably the most practical step to reduce the risk of a heart attack.

With the marked reduction in illness and death from infectious diseases and the survival of more persons into middle age, chronic diseases like heart disease and cancer have become increasingly important. It seems clear that the postponement or prevention of these depends to a great extent on personal habits as well as environmental influences.

The recent British Office on Health Economics publication, "The Age of Maturity", emphasizes that the over 45's have not benefited from medical progress to anything like the same extent as younger age groups. For men especially, dramatic reductions in death from tuberculosis and infectious diseases have been offset by increases in lung cancer and heart disease. The report points out that over-eating, smoking, stress and lack of exercise are key factors in coronary heart disease while smoking also causes lung cancer and bronchitis. The report emphasizes the conclusion that the abandonment of cigarette smoking by young people would eventually bring about a major change in patterns of middle-aged illness.[2]

In a similar vein, the British Medical Association Planning Unit, in assessing priorities in medicine in 1968, dealt with the costs of various curative procedures:

> There are two other matters which the Planning Unit considers highly relevant to the problem of medical priorities. The most conspicuous triumphs of preventive medicine have concerned the control of infectious disease, and in this connexion virology continues to present problems that seem likely to take another couple of decades for their

[1] The Estimated Cost of Certain Identifiable Consequences of Cigarette Smoking Upon Health, Longevity and Property in Canada, 1966, Research and Statistics Memo, Department of National Health and Welfare.

[2] As reported in Medical News, August 22, 1969.

> solution. In some other fields our knowledge of causation furnishes an inadequate basis for a rational preventive programme; witness the varying claims for a dietary prophylaxis of degenerative arterial disease. However, there are certain fields where we know how to prevent serious disease but signally fail to apply our knowledge. If a massive campaign against the cigarette met with even modest success, it would probably save more lives at present sacrificed to lung cancer, coronary thrombosis, and chronic bronchitis than all the curative procedures discussed above.[3]

In its report, "Influencing Smoking Behaviour", the Committee for Research in Smoking Habits appointed by the Norwegian Cancer Society commented:

> . . . Reduction of cigarette smoking is to-day the only possible method for reducing the incidence of lung cancer; and for reducing coronary thrombosis, probably the best one.[4]

It would seem unrealistic to expect tobacco growers and manufacturers to acknowledge the dangers of smoking. If they did, the inconsistencies between such an acknowledged belief and their behaviour would make it impossible for many of them to continue producing tobacco or cigarettes. But it is important, in recognizing the position that must be taken by tobacco growers and manufacturers, to assert that it is no longer in the public interest to prolong the debate about whether cigarette smoking is a health hazard. Too many potential or current smokers are liable to be misled or given false hope by such debate. The exact way in which cigarette smoking causes disease is another matter and continuing study and discussion is required.

One can only conclude that on the basis of the evidence, governments and health authorities have a continuing responsibility to

(*a*) Do whatever is possible to reduce or eliminate cigarette smoking by Canadians,

(*b*) Encourage wherever feasible, less hazardous ways of smoking for those who cannot stop.

There can be no question that if cigarettes were a food or drug or being newly marketed, their sale would have to be prohibited or strongly regulated on the basis of evidence now available, the known constituents of the smoke and the express purpose for which they are sold. Their use would likely only be reconsidered if there was subsequent evidence that a product had been developed which could be consistently used in a reasonably safe manner.

It is perfectly obvious, however, that cigarettes cannot be banned today, pending the development of a product demonstrated to be less hazardous. Cigarette smoking is too widespread and is the basis of an economically important industry from grower through to retailer. Widespread illegal manufacture and distribution

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[3] British Medical Journal, January 11, 1969, page 107.

[4] Influencing Smoking Behaviour, International Union Against Cancer, 1969.

could be expected and economic hardship for growers, workers and others could follow a precipitous dismantling of the industry. Furthermore, any hope of developing less hazardous products by means of government-industry co-operation would be lost.

2

THE CONCLUSIONS OF EXPERTS

The Canadian Medical Association in its brief to the Committee said: ". . .The traditional scientific discipline of medicine combined with the responsibility of serving as the public voice of the profession has resulted in our normally issuing guarded or conservative public statements. The Committee is reminded of this position of the Association to emphasize the importance and seriousness that it attaches to the subject at hand. The story of the health hazard created by cigarette smoking represents an unrivalled tale of illness, disability and death. The potential benefits to be derived from the cessation of smoking place it at a level of importance in preventive medicine with pasteurization of milk, the purification and chlorination of water, and immunization . . .

We believe it sufficient to point out that there is no longer any scientific controversy regarding the risk created by cigarette smoking. The original statistical observations have been validated by clinical observation and the evidence is now accepted as fact by Canadian medicine.[5]

L'Association des Médecins de langue française du Canada reported in its brief that, from day-to-day observation and by repeated and systematic observation of a large number of patients, chronic bronchitis and emphysema occur almost exclusively in cigarette smokers, being rare in non-smokers. L'Association reported that doctors find few cases of bronchitis and emphysema among non-smoking groups such as Seventh-Day Adventists. L'Association went on to report that these diseases were formerly observed mostly in patients over 50 years old but that it is now not uncommon to see smokers of 20 to 25 years of age stricken with chronic bronchitis. ". . .It is quite common to see that former smokers notice that, since they have stopped smoking, their symptoms have diminished, they spit less, cough less, and are less winded. Now, day-to-day experience also shows that post-surgical complications are more common in smokers than in non-smokers."[6]

Dr. D. V. Bates, specialist in diseases of the chest, Royal Victoria Hospital, Montreal, commented, ". . .these two diseases of chronic bronchitis and emphysema do not as a rule kill people quickly. They incapacitate people for years."[7]

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[5] Minutes—No. 20—Thursday, February 27, 1969; pages 689 and 691.
[6] Minutes—No. 44—Thursday, June 19, 1969, page 1988.
[7] Minutes—No. 20—Thursday, February 27, 1969, page 657.

Dr. R. A. Mustard, Professor of Surgery, University of Toronto, and Member of the Board of Directors, Canadian Cancer Society and National Cancer Institute of Canada reported: ". . .It is quite rare to see a person with lung cancer who has not been a heavy smoker. It is so rare that it is a point of great excitement to find such a case. . ."

To those of us who are actually in the business of treating sick people, there is no question about the argument of whether cigarette smoking is important. It may not be the only cause of lung cancer, but it certainly is by all odds the major one, the important one, and it is the only one which at this moment we could if we wished withdraw."[8]

Dr. John B. Armstrong, Executive Director (Medical), Canadian Heart Foundation told the Committee: ". . .In summary, Sir, we are not suggesting that cigarette smoking is the only cause of heart attacks and heart deaths, but it is certainly one of the important factors over which we as individuals, have control."[9]

Dr. Aurèle Beaulnes, Professor of Pharmacology, McGill University, Montreal, and Chairman of the Medical Advisory Committee, Quebec Heart Foundation, said to the Committee that, as a pharmacologist he is convinced there is enough information to show that nicotine is an important facilitating factor in bringing about the development of cardiovascular diseases. He also stated that physicians and scientists generally agree that, even if the basic mechanisms are not completely understood, the statistical evidence is sufficient to allow concurrence with the American Heart Association statement (that the evidence is overwhelming that cigarette smoking is associated with coronary disease and that the risk of that disease increases with the amount of smoking and decreases with the cessation of smoking).[10]

Dr. Y. Morin, Cardiologist, Institute of Cardiology, Quebec, reported to the Committee that clinicians have known for a long time that cigarettes are harmful for people who suffer from coronary heart disease.—"Heart specialists noticed quite a long while ago that patients who stopped smoking showed marked improvement. Furthermore, I might stress the fact that the sudden stop in the use of tobacco among patients has never had bad results."[11]

Dr. D. W. Thompson, of the Department of Pathology, Toronto General Hospital, Toronto, Ontario, demonstrated to the Committee the changes which occur in the linings of the bronchial tubes following exposure to cigarette smoke.

In his testimony, Dr. Thompson pointed out that cancers of the lung that develop in non-smokers are usually a particular type—which is recognizable in any group—smokers and non-smokers mixed. These represent only a small

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[8] Minutes—No. 44—Thursday, June 19, 1969, page 1976.
[9] Minutes—No. 31—Thursday, May 15, 1969, page 1128.
[10] Minutes—No. 31—Thursday, May 15, 1969, pages 1132 and 1133.
[11] Minutes—No. 20—Thursday, February 27, 1969, page 656.

proportion of lung cancers seen today and are derived from cells normally present in the lungs. These represent the cancers that arise spontaneously in all human tissues. Most lung cancers seen today are of a type, rarely found in non-smokers, but representing, by far, the majority of lung cancers found in smokers. Dr. Thompson said that it was not possible to have this type of cancer under normal conditions. One has to develop the kind of lining membrane created by the changes noted above before this type of cancer can be superimposed on it.[12]

Dr. Thompson had less information about the effects of pipe and cigar smoking than of cigarette smoking on the tissues of the respiratory tract. He reported, however, that pipe and cigar smokers are not by any means immune to the changes found in cigarette smokers.[12] This is supported by the studies of Auerbach who has found that changes in the lining tissues of the larynx, oesophagus and bronchial tubes are found more commonly in pipe and cigar smokers and cigarette smokers than in non-smokers. The changes are less common however in pipe and cigar smokers than in cigarette smokers.[13]

Dr. Norman C. Delarue, Assistant Professor (Surgery) University of Toronto, Toronto, Ontario, in commenting on the changes in the bronchial lining said that there is evidence to indicate that these changes can regress when smoking is discontinued.[14]

THE STATISTICS

The Committee had considerable difficulty determining the nature and reliability of the many statistical studies regarding cigarette smoking and health. However, after hearing the various witnesses the Committee is satisfied that the studies are valid, that they reinforce one another as well as other types of studies, and that they are the keystone of the evidence.

Further, the Committee is satisfied that if it were not for the economic complexities of the problem, the evidence would have been acted upon much sooner than it was. Charges that the case against cigarette smoking is "only statistical" and that statistical associations were not proof of cause-and-effect relationships have been effective in causing confusion and delay about accepting the evidence despite the common knowledge that statistics are an essential tool in science, business—including no doubt, the tobacco industry—and governments which use statistical data liberally in decision-making processes.

Much of the criticism of the smoking and health statistics leaves the impression that numerical data have been obtained and applied in a vacuum or manipulated artificially without reference to facts or real events. The Committee

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[12] Minutes—No. 19—Tuesday, February 25, 1969, page 620.

[13] Smoking and Health, United States Public Health Service Reports, 1964, 1967 and 1969.

[14] Minutes—No. 20—Thursday, February 27, 1969, page 655.

recognizes, however, that these statistics involve counts of smoking habits or of experimental exposures to cigarette smoke or its constituents in connection with verifiable facts such as deaths, diseases, symptoms, physiological effects or autopsy findings. Further, the Committee understands that these studies do not stand alone as the evidence against cigarette smoking. There is a convergence of evidence from many sources—statistical, laboratory, clinical—which allows one to conclude that cigarette smoking is an important health hazard. The Committee also realizes that statistical methods are the only way to sort out the effects of a particular agent such as cigarette smoke which is applied to the body over a period of years, during which many constitutional and environmental factors are operating. For this reason, one must obtain information on large numbers of persons to rule out chance events that might be considered significant in observations on a few individuals. It is obvious in such a hazard as cigarette smoking that one cannot see the direct connection between an agent and an event as one does, for example, with automobile accidents, injuries from firearms, or certain quick-acting poisons.

(*a*) *Conflicting Evidence*

Some witnesses, all but one appearing at the request of the tobacco industry, drew attention to deficiencies in some studies or to possible alternative explanations of relationships between cigarette smoking and disease—for example, constitutional differences between smokers and non-smokers which might account for differences in smoking habits as well as in disease incidence. As would be expected in any thorough review of the subject consideration was given to such matters before conclusions were reached in major studies.

There was considerable discussion about whether the diagnosis of lung cancer had improved to such an extent over the past thirty or forty years that increases in disease attributed to increases in cigarette smoking were really due to improved diagnosis. However, improved diagnosis could not explain the ratio of male to female lung cancer death rates rising from two to six between 1931 and 1967 in Canada since improvements in diagnosis should have applied to men and women equally. Further, improved diagnosis could not account for the continuing increases in lung cancer rates in recent years during which the level of diagnostic accuracy has been consistently high.

It was suggested by some witnesses that errors in completion of death certificates—for example naming a lung tumour as primary cancer of the lung when it really had spread from another site such as the kidney—were not uncommon. For example, Dr. Victor B. Buhler, Pathologist, St. Joseph Hospital,

Kansas City, Missouri, said that 80% of death certificates in the United States cannot be held scientifically valid.[15] This appears to be contrary to common experience in Canada. Dr. R. M. Taylor, Executive Director of the National Cancer Institute of Canada and Executive Vice-President of the Canadian Cancer Society advised the Committee that it is not very difficult for pathologists to determine whether the disease that one is seeing in the lung is primary or secondary.[16] Dr. A. J. Phillips, Assistant Executive Director (Statistics), of the National Cancer Institute of Canada and Director of Public Education of the Canadian Cancer Society reported to the Committee on a study he had carried out in 1961. He ascertained that in 95 per cent of lung cancer deaths reported on death certificates in Canada, 4.8 per cent of diagnoses had to be determined on clinical evidence. The remainder, 95 per cent, of the death certificates were based upon the examination of tissues or on X-Ray evidence. He concluded that the reliability of the diagnosis of lung cancer in Canada is very high.[17]

In any case, errors in diagnoses should occur equally among non-smokers and smokers and could therefore not account for the marked differences in lung cancer risks between the two. The disease known as cancer of the lung, whatever the diagnostic error might be, is many times more common among cigarette smokers than among pipe and cigar smokers or non-smokers and the risk of acquiring the disease increases with the daily cigarette consumption and decreases when cigarette smoking is discontinued. This is all that is important to the Committee since it is concerned about the effects of cigarette smoking not the niceties of medical diagnosis. Also, even if there were certain inaccuracies in the diagnosis of specific diseases, the critiques did not explain the close link between cigarette smoking and overall death rates which are independent of diagnosis.

Much of the evidence brought forward as possible explanations by witnesses appearing at the request of the tobacco industry was based on crude correlations between death rates and cigarette consumption and lacked the refinement of studies which compared disease rates in groups of smokers and non-smokers by amounts smoked and whether smoking had been discontinued. Attempts to rule out the cigarette smoking—lung cancer hypothesis because of inconsistencies between cigarette consumption and lung cancer rates in certain countries are not justified. Cigarette consumption may have increased more recently in one country than another with the result that the average smoker is younger than, and has not been smoking as long as the smoker in another country. Moreover, type of cigarette and manner of smoking can vary between countries. The real test of the cigarette smoking—disease hypothesis is comparisons between groups with different smoking habits within the same environment. This has been done in the important prospective studies and the possibility that death rates and cigarette smoking are

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[15] Minutes—No. 36—Thursday, May 29, 1969, page 1434.
[16] Minutes—No. 44—Thursday, June 19, 1969, page 1979.
[17] Minutes—No. 44—Thursday, June 19, 1969, page 1979.

increasing coincidentally, but not in association, is ruled out because comparisons have been made between non-smoking and various smoking groups.

A common criticism was that although skin cancers have been produced in mice by repeated applications of tobacco tar, it has not been possible to produce lung cancer on a consistent and predictable basis in experimental animals breathing cigarette smoke. Dr. R. M. Taylor, Executive Director of the National Cancer Institute of Canada reported to the Committee:

"Up until now it has been hard to convince animals to smoke, to follow the same habits that humans do, to produce the experiment. It would be much simpler in solving this problem if we did have an experimental animal that was susceptible to cigarette smoke. But when we have a biological group, and humans are animals also, which have divided themselves so nicely into groups of people who do smoke and who do not smoke, who smoke varying quantities and who smoke in different manners, it seems unnecessary really to have other experimental animals."[18]

It would seem in fact, that to assess human cancer hazards, studies of men are superior to those in animals because they demonstrate the effects of various environmental influences on man in the milieu in which he lives and works.[19]

The Committee is aware that inflammatory and other changes have been produced in the lungs of animals exposed to cigarette smoke or to cigarette smoke constituents.[20]

The Committee recognizes that planned experimentation with humans is impossible, that it is necessary to observe what happens to those who choose themselves to smoke or not to smoke. It is obviously out of the question to randomly determine who will and who will not, throughout their lifetimes, smoke; and smoke a prescribed quantity of a certain type of cigarette in a specific manner. Therefore, large prospective studies of the type already carried out in connection with smoking seem to be the sources of information we have or can expect to have regarding the effects of environmental influences on humans.

It was suggested to the Committee that lung cancer should be more common among women, is higher among women who smoke and is higher among women the lung cancer death rate is higher among men than among women, it is increasing among women, is higher among women who smoke and is higher among women who smoke heavily than among those who are light or moderate smokers. The difference between the male and female rates is compatible with the fact that female cigarette smokers (as a group) have been far less exposed to cigarette smoke than male cigarette smokers of the same ages, as judged by the number of cigarettes smoked per day, degree of inhalation, and the number of years they have smoked.[21]

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[18] Minutes—No. 44—Thursday, June 19, 1969, page 1972.

[19] Hueper—W.C., Occupational and Environmental Cancer of the Respiratory System, Springer-Verlag, New York, Inc., 1966.

[20] The Health Consequences of Smoking, 1969 Supplement to the 1967 United States Public Health Service Review.

[21] Epidemiological Study of Cancer and Other Chronic Diseases, Monograph 19, January, 1966, National Cancer Institute, United States Public Health Service.

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The Committee was told that the average age of death from lung cancer was the same for non-smokers, light smokers and heavy smokers. It was suggested that if cigarette smoking caused lung cancer, the average age of death from the disease should be younger for smokers than for non-smokers and younger for heavy smokers than for light smokers. However, Dr. W. F. Forbes, Professor of Chemistry and Statistics, University of Waterloo, Waterloo, Ontario, advised the Committee that this type of statement was misleading in two ways. First, he pointed out, the important thing is that, within specific age groups, the lung cancer death rate generally increases with daily cigarette consumption. Second, he said that he had been able to demonstrate by means of mathematical models that one would expect the maximum number of deaths from lung cancer to occur at similar ages in non-smokers and light and heavy smokers.[22] In other words, the cause of lung cancer, smoking or otherwise, has no bearing on the average age of death. Therefore, the average age of death from lung cancer cannot be used as an argument for or against a causative or dose-response relationship between cigarette smoking and the disease.

The observation that cigarette smokers rarely acquire cancer of the trachea through which the smoke passes on the way to the lung does not disprove the carcinogenic properties of cigarette smoke. Recognized industrial carcinogens such as asbestos, chromium and uranium also cause lung cancer but not cancer of the trachea and these carcinogens are breathed through the trachea like cigarette smoke.[23]

The Committee was informed that long term projections suggest that lung cancer rates will eventually level off and that this is an argument against the cigarette smoking—lung cancer hypothesis since cigarette consumption is increasing. However, per capita cigarette consumption has decreased in recent years and the proportion of cigarette smokers appears to be decreasing among men. Therefore, it would be expected that lung cancer would begin to level off or even decrease in future years. Further, even without decreases in smoking, one would expect lung cancer rates to eventually stabilize after cigarette smoking had spread up through the age groups and reached its maximum level among both men and women.[24]

The Committee was told that the fact that cigarette smoking was associated with so many conditions raised doubts as to the significance of its connection with

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[22] Minutes—No. 41—Thursday, June 12, 1969, page 1796.

[23] Hueper, W.C., Occupational and Environmental Cancers of the Respiratory System, Springer-Verlag, New York, Inc., 1966.

[24] Tables were shown by another witness to indicate progressive increases in the age at which lung cancer incidence peaks, and to support the theory that the disease will eventually disappear. However, these tables are prepared from numbers of cases of lung cancer not from rates based on the size of the veteran patient population in each age group. Therefore, one must assume that the figures presented reflect nothing more than the increasing ages of veteran patients since World Wars I and II. (See Minutes—No. 32, Tuesday, May 20, 1969, pages 1199, 1233 and 1238.)

any of them. The Committee is satisfied, however, that it is not uncommon for a single agent to affect various parts of the body or to manifest itself in various ways. Examples of substances having effects on different organs or body systems are typhoid fever, syphilis, tuberculosis, polio virus, alcohol, diphtheria toxin, phenol and bichloride of mercury. More important, however, such criticisms leave the impression that cigarette smoke is a simple substance whereas, in fact, it is a complex mixture of hundreds of substances in a gaseous or droplet form. It should therefore be expected that cigarette smoking could have a variety of effects on the body and be associated with different diseases in various parts of the body.

The results of the twin studies in Sweden and the United States of Dr. Rune Cederlof, Ph.D., of the Department of Hygiene, Korolinska Institute, Stockholm, Sweden, have been used to support the view that while cigarette smoking is causally related to lung disease, it is not so connected with coronary heart disease. However, Dr. Cederlof studied the prevalence of angina pectoris not the incidence of heart attacks. It is noted that studies of disease prevalence may provide different results than studies of disease incidence because of the disappearance from populations of those who die of a condition. This is particularly important in heart disease where a person believed to be healthy often dies with his first heart attack.

Other studies have shown that there is a consistent association between cigarette smoking and the incidence of heart attacks but not between cigarette smoking and angina pectoris. Dr. Cederlof's findings support the conclusions of other research both as to angina pectoris as well as chronic bronchitis. His twin studies, which he reported as contributing evidence of a strong causal relationship between cigarette smoking and chronic bronchitis, therefore, assist in confirming that cigarette smoking is a health hazard. Also, the observation that individuals in identical twin pairs have different smoking habits supports the position that cigarette smoking is not genetically determined. This is an argument against the hypothesis that cigarette smoking is related to lung cancer and other diseases as a result of some persons having a constitutional predisposition to both smoke and to develop these diseases.

(*b*) *Community and Occupational Air Pollution*

The work of Dr. John Wyatt, one of the witnesses, and his colleagues in Winnipeg and St. Louis, indicates the synergistic effects of air pollution and cigarette smoking.[25] Emphysema was more common in St. Louis than Winnipeg and increased with amount smoked and with age. In neither city was severe emphysema found in non-smokers. This finding that it is mainly cigarette smokers who seem to be affected by air pollution is supported by other studies. Among non-smokers there appears to be little respiratory disease whether they live in

[25] Minutes—No. 32—Tuesday, May 20, 1969, pages 1172 and 1173.

polluted or non-polluted areas and the difference between the prevalence of respiratory disease among non-smokers in polluted and non-polluted areas is small.

Among cigarette smokers, respiratory disease increases with the amount smoked and appears to be more common in polluted than non-polluted areas. Further, some studies have demonstrated that differences in prevalence of bronchitis between workers exposed and not exposed to inhalation of dust are confined to cigarette smokers.[26]

Dr. D. V. Bates, specialist in diseases of the chest, Royal Victoria Hospital, Montreal, said there is evidence that a small part if the increase in chronic respiratory disease could be due to living in modern cities, but that cigarettes unquestionably are the major agent.[27]

Dr. C. W. L. Jeanes, Executive Secretary of the Canadian Tuberculosis and Respiratory Disease Association informed the Committee that the Association is of the opinion that community air pollution is much less important than personal pollution of cigarette smoking as a factor in the production of chronic lung disease. He pointed out that in ordinary air pollution the bronchial tubes are not exposed to the concentration of pollutants one can readily see in cigarette smoke.[28]

With respect to lung cancer, the Committee recognizes that cases of lung cancer occur in those who have never smoked cigarettes or inhaled any form of tobacco smoke and that non-smokers living in the cities show slightly higher rates for lung cancer than those living in the country. In these cases, air pollution may be a factor but some believe the very small difference is mainly due to occupational risks in the towns.[29] However, it is the cigarette smoker who appears to be especially susceptible to whatever additional risk for lung cancer may be presented by certain types of air pollution or other factors such as asbestos or uranium dust inhalation. Further, in Finland, for example, where the population is largely rural and air pollution is a minor problem but cigarette smoking widespread, the lung cancer rate is one of the highest in the world.[30]

The Committee has noted that the same types of epidemiological studies are used to study the effects of cigarette smoking as are used in air pollution research. Any modern air pollution studies must allow for individual smoking habits as well as for choice of occupation and residence. Therefore, one cannot suggest that air pollution is a more important health hazard than cigarette smoking and, at the same time, condemn the studies which have demonstrated the harmful effects of smoking, as some critics do.

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[26] World Conference on Smoking and Health, September 1967. A Summary of the Proceedings, page 86.

[27] Minutes—No. 20—February 27, 1969, page 658.

[28] Minutes—No. 24—April 21, 1969, page 857.

[29] World Conference on Smoking and Health, September, 1967, A Summary of Proceedings, page 33.

[30] Minutes—No. 44—Thursday, June 19, 1969, page 1956.

(c) Multiple Causes

The Committee clearly recognizes that cigarette smoking is not the only cause of any disease, and to suggest this would indicate a lack of understanding that chronic degenerative diseases have multiple causative factors. Cancer, chronic respiratory disease and coronary heart disease occur in non-smokers although at lower rates than in cigarette smokers. This fact does not contradict the conclusion that cigarette smoking is an important contributory factor in these diseases.

Environmental as well as constitutional factors would appear to have a role in the production of lung cancer and chronic bronchitis and emphysema. However, cigarette smoking seems to be the dominant factor in these diseases. Unfortunately, it is at this time impossible to identify those who will not develop these respiratory diseases if they smoke and it is necessary to assume that everyone is at risk when he or she smokes and that the risk is greater for heavy smokers.

Similarly, the fact that every smoker does not acquire lung cancer or chronic bronchitis and emphysema does not argue against smoking as a cause. Only a few persons exposed to polio virus, for example, develop manifest disease, even though many will show evidence on blood testing that they have been exposed.

Similarly, the Committee was informed that several factors are now regarded as contributors to heart attacks,—high blood pressure, high blood cholesterol, obesity, physical inactivity, and cigarette smoking, as examples. Heart attacks occur predominately in males especially before the age of fifty. The ratio of the heart attack death rate for cigarette smokers to that of non-smokers is higher in the younger age groups. However, the differences in death rates between smokers and non-smokers increase with increasing age.

"Cigarette smoking has been shown to be an important risk factor in the development of coronary heart disease. It is important both by itself and in the presence of other significant risk factors. In combination with certain other risk factors, the joint effects appear to be even greater than those accounted for by those risk factors independently."[31]

Age-Adjusted Morbidity Ratios For Coronary Heart Disease Among Smokers and Non-Smokers According to Level of Serum Cholesterol [32]

Serum Cholesterol Level	Non-Smokers of Cigarettes	Cigarette Smokers
Low	1.0	1.8
High	2.0	4.5

[31] The Health Consequences of Smoking, 1969 Supplement to the 1967 United States Public Health Service Review.

[32] From Framingham and Albany Study as reported in The Health Consequences of Smoking, A United States Public Health Service Review, 1967.

Age-Adjusted Morbidity Ratios for Heart Attack Among Smokers and Non-Smokers According to Physical Activity Level[83]

Physical Activity	Non-Smokers of Cigarettes	Cigarette Smokers
Most Active	1.0	2.6
Least Active	2.4	3.4

Again, as with chronic respiratory disease and lung cancer, one cannot predict those who will not have a heart attack if they smoke. On the other hand, one can predict those who have combinations of other risk factors along with cigarette smoking and are therefore most likely to have a heart attack if they smoke.

It is not necessary for everyone who has elevated blood cholesterol, high blood pressure, or is obese or physically inactive to have a heart attack in order to consider these conditions as risk factors in coronary heart disease. In the same fashion, it is not necessary for every person who smokes cigarettes to have a heart attack in order to consider smoking as a risk factor in this disease.

It has been pointed out that, although not all smokers develop one of the major diseases associated with the habit, smoking affects most smokers in one way or another. For example, cough and phlegm production, shortness of breadth, cellular changes in the bronchial tubes and effects on the heart and circulation. The more serious manifestations can be considered, in a sense, as the tip of an iceberg.

(*d*) *Weighing the Evidence*

One of the most common comments, especially, perhaps, by witnesses who appeared at the request of the Canadian tobacco industry was that one could not say how lung cancer, chronic bronchitis, emphysema and coronary heart disease were produced and that one could not explain the epidemiological associations between cigarette smoking and various diseases until further research uncovered mechanisms of disease production.

While such scientific integrity is to be commended, the Committee is of the opinion that one cannot postpone action for decades or even centuries while every last detail of every condition linked to smoking is fully explained! Further, in the Committee's view, Parliament need not be concerned with the clinical details of the various diseases associated with smoking. The Committee has satisfied itself that cigarette smokers have a higher incidence of disease, disability and death because they smoke. Despite rationalizations and speculation as to possible explanations no evidence has been brought to the Committee to make it doubt the significance of the overwhelming and converging evidence from the many

[83] From Study of Health Insurance Plan of New York as reported in The Health Consequences of Smoking, A United States Public Health Service Review, 1967.

hundreds of studies carried out in different ways in different parts of the world that cigarette smoking is a serious health hazard. The onus would appear to be on those who seriously doubt this conclusion to refute it with consistent and solid evidence derived from research not criticism and speculation. In the Committee's view such evidence does not appear to exist and since it has not been brought forward there is no basis for a controversy as some would suggest. To delay correcting action to await such evidence would be contrary to the public interest.

The Committee considers it noteworthy that those scientists who dispute the evidence have failed to convince the vast majority of their scientific peers throughout the world. One might expect them to have wider support from their colleagues before they attempt to convince lay groups. It is also interesting that a large amount of the increasing evidence about the harmful effects of cigarette smoking is being derived from studies sponsored by the tobacco industry.[34] The industry is to be commended, of course, for its extensive support of this type of research. In its brief to the Committee, the Canadian Tuberculosis and Respiratory Disease Association commented:

". . .It is significant that the tobacco industry which has urgent reason for producing contradictory evidence and immense financial resources for compiling such evidence were it available has not been able to provide a statistical challenge."[35]

Society would be seriously handicapped in its utilization of scientific discoveries if it was required to wait for every mechanism to be explained before making use of them. Much suffering would have occurred and many lives would have been lost if the introduction of insulin and penicillin had required a complete understanding of the way they worked in the human body. Similarly, the value of citrus fruit in the prevention of scurvy and the benefits of smallpox vaccination were accepted on empirical grounds long before the causes of these diseases were understood. In his testimony to the Committee, Dr. D. H. Copp, President of the National Cancer Institute of Canada said: "Were it not for the emotional relationship of this particular habit and some of the other factors which are involved, we would have eliminated this long ago, as we have eliminated other pollutants."[36]

Dr. R. A. Mustard, Professor of Surgery, University of Toronto, and Member of the Board of Directors of the Canadian Cancer Society and the National Cancer Institute of Canada told the Committee:

". . .No one can give you a specific answer on how many doctors disagree with these findings that we have advocated. As a matter of fact, I believe there

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[34] For example, see Review of Activities, Tobacco Research Council (Britain), 1963-66.
[35] Minutes—No. 24—Monday, April 21, 1969.
[36] Minutes—No. 44—Thursday, June 19, 1969, page 1974.

is still a flat earth society, although they are having difficulty since the satellite accomplishments. There are some flat earth people in medicine, too." Dr. Mustard said that he was a member of the faculty of the largest medical school in Canada and expressed the view that throughout the faculty of several hundred doctors, there was no question about the relationships between cigarette smoking and various diseases. "I think you would be hard put to it to find anyone in the entire faculty who would really seriously challenge that. It is certainly widely accepted on the basis of the available evidence."[37]

The Committee observes that some witnesses who disagree that smoking is a health hazard are demanding what is perhaps unattainable evidence as their criterion of proof. Such a criterion may be eminently safe for those who do not wish to acknowledge the hazard but it would appear to be unrealistic, against the public interest, and even unscientific.

Scientific conclusions as to cause-and-effect must be based on less than absolute proof. They are probablistic. They derive from expert judgment as to the probability that the connection between one thing and another is proven beyond reasonable doubt. The concept of proof beyond reasonable doubt has meaning in legal matters as well. Even in capital cases, the law requires only proof beyond a reasonable doubt, not conclusive proof. In an editorial dealing with the recent hearings on cigarette labelling and advertising by the United States House Interstate and Foreign Commerce Committee, the New England Journal of Medicine of July 24, 1969, commented:

"Since absolute proof is unattainable, the credibility of scientific opinion is a relative matter and, in a given case, must be evaluated on the basis of its likelihood." In any case, the evidence required to decide whether something is harmful is different for the authority who has to take responsibility for doing or not doing something about it than for the scientist who wishes to understand every mechanism of a relationship.

It is the Committee's view that it is impossible to escape the conclusion reached by the overwhelming majority of health authorities and organizations throughout the world that cigarette smoking is one of the most imporant preventable causes of disease, disability and death in countries like Canada.

3

THE RISKS OF SMOKING

The use of tobacco has been considered for many years to be harmful to health. As early as 1859, a French researcher, Bouisson, reported that among 68 cases of cancer of the lip or mouth, 66 smoked tobacco—pipes or cigars—and the other chewed tobacco. He also found that cancer of the lip usually developed

[37] Minutes—No. 44—Thursday, June 19, 1969, page 1982.

at the site where the pipe or cigar was held.[38] In the 1920's and 1930's it was noted in Europe and the United States that lung cancer patients were usually cigarette smokers. Subsequently, retrospective epidemiological studies in several countries confirmed the close association between lung cancer and cigarette smoking. These findings were reinforced by those of prospective epidemiological studies in Canada and other countries—where large populations of smokers and non-smokers were identified and followed for several years to determine the frenquency and causes of death.

The prospective studies showed that cigarette smokers have increased risks for lung cancer, the leading cause of death from cancer in Canada, chronic bronchitis and emphysema, and coronary heart disease—the leading cause of death in Canada. Cigarette smoking as well as pipe and cigar smoking have been found to be linked also with less common diseases like cancers of the mouth, oesophagus and larynx. Moreover women who smoke during pregnancy have an increased risk of bearing premature infants. It appears also that maternal smoking during pregnancy may be associated with an increased incidence of spontaneous abortion, still birth and neonatal death and that this relationship may be most marked in the presence of other risk factors.[39]

However, it is perhaps best to consider the relationship between cigarette smoking and disease in its simplest terms—the fact that cigarette smokers have an increased overall death rate. This observation, made in various studies in different parts of the world, depends only on counting deaths, is completely independent of diagnosis and, thereby, any argument about improved diagnostic skills and errors or changes in reporting and classification of deaths between various places and times. It is only necessary to compare the numbers of deaths among smokers and non-smokers.

This was first done by Professor Raymond Pearl of John Hopkins University. He published in 1938 a table showing the reduced life expectancy of smokers.[40] His table also demonstrated that the reduction is proportional to the amount of tobacco smoked. Subsequent studies have shown that cigarette smokers have much higher total death rates (all causes combined) than pipe, cigar and non-smokers. Further, these studies have shown that the total death rate increases with the number of cigarettes smoked per day and with the duration of smoking, and is

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[38] Tobacco and Your Health: The Smoking Controversy, Dr. Harold S. Diehl, McGraw-Hill Book Company, 1969.

[39] The Health Consequences of Smoking, *1969 Supplement* to the 1967 United States Public Health Service Review.

[40] Tobacco and Your Health: The Smoking Controversy, Dr. Harold S. Diehl, McGraw-Hill Book Company, 1969.

higher in those who start smoking at an early age and in those who inhale the smoke. They have also shown that the total death rate decreases when smoking is discontinued. The increased death rate is found among cigarette smokers as young as the 35 to 44 year age group.[41, 42, 43]

The combined results of studies in Canada, Great Britain, and the United States have shown that the total death rate (all causes combined) is, on the average about 70 per cent higher among male cigarette smokers than non-smokers. It varies with the amount smoked as follows:

Less than 10 cigarettes per day—40% higher

10-19 cigarettes per day—70% higher

20-39 cigarettes per day—90% higher

40 or more cigarettes per day—120% higher

Women smokers also have a higher death rate than women who not smoke. The increase is not as marked as among men apparently because women tend to smoke fewer cigarettes per day, inhale less, and start smoking later in life than men. Among women, as among men, the death rate increases with daily cigarette consumption and is higher among those who inhale the smoke and who start smoking at an early age.[44, 45, 46, 47]

The decreased life expectancy of cigarette smokers is indicated by the findings from the Canadian Study of Smoking and Health, as reported at the World Conference on Smoking and Health in September, 1967:

Life Expectancy for 32.5 Year Old Men[48]

	Never Smoked Regularly	Cigarette Smokers By Daily Amount		
		1 - 9	10 - 20	21+
Expected Age of Death	72.1	68.5	67.2	66.4
Further Years of Life	39.6	36.0	34.7	33.9
Life Years Lost	0	3.6	4.9	5.7

The importance of the reduced life expectancy of smokers is underlined by the fact that the life expectancy of thirty year old Canadian men increased only

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[41] Smoking and Health Reference Book (Canada) Department of National Health and Welfare, 1964.

[42] Canadian Study of Smoking and Health, Department of National Health and Welfare, 1966.

[43] The Health Consequences of Smoking, United States Public Health Service Review, 1967.

[44] Smoking and Health Reference Book (Canada) Department of National Health and Welfare, 1964.

[45] The Health Consequences of Smoking, A United States Public Health Service Review, 1967.

[46] R_x No Smoking, a leaflet produced by the Department of National Health and Welfare.

[47] Epidemiological Study of Cancer and other Chronic Diseases, National Cancer Institute Monograph 19, United States Public Health Service, January, 1966.

[48] World Conference on Smoking and Health, September, 1967, A Summary of Proceedings.

1.69 years between the periods 1930-32 to 1960-62.[49] The thirty year interval between these two periods was one marked by substantial improvements in medical treatment as well as living standards. Since life expectancies are averages, smokers living beyond the average for non-smokers are counterbalanced by smokers dying at much earlier ages than the average for their smoking group. In the United States, it has been estimated that the life expectancy of all 25 year old American males, smokers and non-smokers combined is reduced by about 3.4 years because of the reduced life expectancy of cigarette smokers. This loss approaches the net gain from half a century of scientific and social progress.[48] At least one major insurance company, State Mutual of America, recognizes the reduced life expectancy of smokers by offering reduced rates to those who have not smoked a cigarette in the preceding year.

These findings would appear to be sufficient, from a public health viewpoint, to decide that cigarette smoking is a serious hazard to health and should be actively discouraged. They are, nevertheless, buttressed by the fact that the increased death rates of cigarette smokers are largely due to diseases of the respiratory and circulatory systems which are the systems that are intimately exposed to cigarette smoke or its components. Also, death rates from lung cancer, chronic bronchitis and emphysema and coronary heart disease increase with the number of cigarettes smoked and decrease when smoking is discontinued, thus indicating a dose-response relationship.[50, 51, 52] Further support comes from laboratory studies which confirm the cancer producing, irritating and toxic properties of cigarette smoke. Cigarette smoke contains several cancer producing substances, irritants such as phenols, acids, aldehydes and ketones, and toxic or irritating gases like carbon monoxide, acetaldehyde, acrolein, and hydrogen cyanide.[53] Cigarette smoke tar causes cancers when applied to the skin of mice and the production of these cancers increases with the tar level of the cigarette.[54] Moreover, tobacco smoke has been shown to produce experimentally kinds of non-cancerous damage found in smokers on clinical tests or in their tissues and cells at autopsy.[53]

It is noted, also, that studies of various populations have demonstrated not only increased mortality risks, but also increased risks of disease of varying degrees of severity among cigarette smokers. Cigarette smokers have proportion-

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[49] Life Expentancy Trends, 1930-1932, to 1960-1962. Dominion Bureau of Statistics, Canada.

[50] Smoking and Health, A Report of the Royal College of Physicians (Britain) on smoking in relation to cancer of the lung and other diseases, McLelland and Stewart, 1962.

[51] Canadian Study of Smoking and Health, Department of National Health and Welfare, 1966.

[52] The Health Consequences of Smoking, A United States Public Health Service Review, 1967.

[53] Smoking and Health, Report of the Advisory Committee to the Surgeon General of the United States Public Health Service, 1964.

[54] The Health Consequences of Smoking, 1968 Supplement to the 1967 Public Health Service Review.

ately more heart attacks, diseases of the arteries, cough, shortness of breath, decreased lung function, hospitalization and work-loss days than non-smokers. Much of this occurs in young or middle-aged smokers.[55] The clinical observations of physicians who see disease in smokers and the benefits of stopping are also important as indicated by the testimony of various witnesses appearing before the Committee.

4

PIPE AND CIGAR SMOKING

Pipe and cigar smokers have an increased risk of cancer of those sites exposed to the smoke—mouth, larynx and oesophagus. However, cancer of these sites is uncommon. The risk of lung cancer is much less among pipe and cigar smokers than among cigarette smokers, being on the average slightly higher than that of non-smokers. The lower lung cancer risk of pipe and cigar smokers compared to cigarette smokers is assumed to be largely due to differences in inhalation practices. Pipe smoking has been recognized as a cause of lip cancer for many years.

Pipe and cigar smoking is also associated with an increased prevalence of cough, pipe and cigar smokers being intermediate between non-smokers and cigarette smokers in this regard. Death rates from chronic bronchitis and emphysema, however, appear on the whole to be only slightly elevated among pipe and cigar smokers as compared to non-smokers and are substantially lower than those of cigarette smokers.

The risk of death from heart attack is about the same among pipe and cigar smokers as among non-smokers. The total death rate (all causes combined) is also about the same for men smoking pipes only or less than 5 cigars as day as for non-smokers. For men smoking 5 or more cigars daily, the total death rate is slightly higher.[56]

5

THE BENEFITS OF SMOKING

It was suggested by several witnesses that the benefits of cigarette smoking in *relieving stress* are such that its discontinuation could lead to the adoption of other harmful practices such as overeating or the abuse of alcohol or drugs which in the long term could be more harmful to society than smoking. Though one cannot

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[55] World Conference on Smoking and Health, September, 1967, A Summary of the Proceedings.

[56] Smoking and Health, Report of the Advisory Committee to the Surgeon General of the United States Public Health Service, 1964.

deny the important place that cigarette smoking has in the lives of many persons such speculation would seem to be unfounded. No factual evidence was presented to support this view and the demonstrated benefits of having never smoked or of discontinuing smoking argue against its validity.

Cigarette smoking is a recent phenomenon for mankind and stresses were handled before its adoption. It is a practice which is required by less than half of adult Canadians. The remainder seem to cope with stress and whole societies of non-smokers like the Seventh Day Adventists are subjected to the same stresses as smokers and appear to manage them without resorting to the abuse of other substances. There are large numbers of ex-smokers in society and, ordinarily, they appear to cope with stress in a normal fashion. Despite the fact that some persons eat more and gain weight when they discontinue smoking, the benefits of stopping smoking are clearly demonstrated and indicate that, generally, the disadvantages of smoking outweigh the advantages.

Many smokers, of course, become strongly dependent on cigarettes and the cigarette itself often gives rise to the stress leading to the need for the next cigarette. It is this strong dependence which is one of the most disturbing aspects of cigarette smoking. For many, it removes the element of choice as to whether they smoke or not and, when stopping becomes imperative because of disease, may mean the difference between life and death.

The Committee acknowledges, however, that for some persons, the advantages of smoking, as judged by their own assessment of them, undoubtedly outweigh the disadvantages. In other words, they are prepared to accept the undesirable consequences to gain those personal and social satisfactions they obtain from smoking.

6

CIGARETTE SMOKING—ITS CONTRIBUTION TO THE NATIONAL ECONOMY

The tobacco industry is an important contributor to the national economy and most of this income is derived from the widespread use of cigarettes.

The cigarette is the basis of a thriving farm economy in Ontario and a lesser significant one in Quebec. Tobacco growing is also spreading to Prince Edward Island, Nova Scotia and New Brunswick.

The sale of flue-cured cigarette tobacco in Canada in 1968 totalled about $150 million, $143 million of this went to Ontario farmers and $6 million to Quebec farmers. Canadian farmers grow 99% of the tobacco used in Canadian cigarettes and also supply the export market.[57, 58]

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[57] Minutes—No. 43—Tuesday, June 17, 1969.

[58] Minutes—No. 38—Thursday, June 5, 1969.

Tobacco is second only to wheat in agricultural exports. In 1968, the total value of Canadian flue-cured tobacco exports to all countries was $56 million, more than $51 million of this going to the United Kingdom. In the three years 1964-65-66 burley tobacco with a value of $4,750,000 was exported to off-shore markets.

Flue-cured tobacco production in Ontario involves 3,774 owner growers on 4,559 farms, and an allotment of 152,416 acres of basic quota. In addition, about 1,163 sharegrowers are registered with the Tobacco Board. The combined gross farm returns of flue-cured and burley tobacco in Ontario have made tobacco the provinces' second largest measured dollar value crop.[59] Flue-cured tobacco production in Quebec in 1968 involved 119 producers cultivating 6,500 acres of land.

The total capital investment in Canadian tobacco farms in 1969 is estimated to be $436 million.[59]

The tobacco industry estimates that 9,500 full-time and 40,000 seasonal farm workers are employed in tobacco production. A further 10,500 persons are employed in processing and manufacturing where the total annual payroll is about $60 million.[60]

The manufacturers also reported that in 1968, federal taxes on cigarettes totalled $555 million, provincial taxes—$148 million and corporate taxes (manufacturing)—$20 million to a total of $723 million. Federal tobacco tax collections accounted for 6% of total Federal revenues. Federal and Provincial taxes take 60-62% of the consumer dollar spent on tobacco products.[60]

The manufacturers purchase packaging materials and other supplies to a total of about $40 million per year and the number of shareholders is in excess of 17,500.[61]

Tobacco is distributed through 90,000 retail outlets and 650 wholesalers and distributors. The combined wholesale and retail annual income from tobacco is $180 million. Freight tonnage shipped by rail and truck totals 450 million pounds and transportation costs are $10 million.

Cigarette advertising, exclusive of other types of promotion, cost some $15 million in 1967. This was distributed as follows:

Newspapers	$ 3,191,000
Magazines	655,000
Week-end Supplements	1,809,000
Radio	3,358,000
Television	3,133,000
Outdoor	2,776,000
Total	$14,922,000[61]

[59] Minutes—No. 38—Thursday, June 5, 1969.
[59] Minutes—No. 43—Tuesday, June 17, 1969.
[60] Minutes—No. 38—Thursday, June 5, 1969.
[61] Minutes—No. 38—Thursday, June 5, 1969.

The foregoing makes it clear that sudden and drastic curtailment of the cigarette producing industry and its ramifications would affect the livelihoods of many persons as well as the incomes of legitimate businesses and of governments.

Particular economic problems brought to the attention of the Committee were:

—The uselessness of much tobacco land, particularly in Southern Ontario, for other farming purposes. Small, highly profitable tobacco farms could not be expected to produce other than marginal incomes when converted to other crops.

—The potential unemployment of tobacco workers who have achieved high wage scales and many of whom are middle-aged with twenty or more years of industry experience and special skills that cannot be used elsewhere.

—The compounded loss of income for wholesalers and retailers. Sales of cigarettes are tied to the sales of confectionery and other consumer goods. Many outlets sell cigarettes which are a low profit item, simply to attract customers to their stores.

Disruption of the tobacco economy would, of course, be hardest for tobacco growers and tobacco industry workers because of their absolute dependency on tobacco. The manufacturers can invest their money in other products and have already diverted to a considerable degree, in some instances incorporating non-tobacco divisions which produce other kinds of consumer goods including foods and alcoholic beverages. The advertising agencies, media and wholesalers and retailers, even smoke shops, obtain their incomes from the promotion or sale of various goods and could therefore be expected to adjust to gradual reductions in cigarette sales.

Similarly, governments and the economy as a whole could be expected to adjust to such reductions. The rate of taxation is not as high for other goods as for tobacco and alcohol. However, since cigarettes are a consumer good and not a basic resource, the domestic tobacco economy is supported by out-of-pocket purchases by smokers. This money would not disappear from the economy but would be available for purchases of other goods, subject to some or all of the same taxes as cigarettes. Similarly, growers, workers and executive, advertising and sales skills could be employed in connection with other crops, goods, or businesses. Finally, the high costs of cigarette smoking would be reduced if cigarette use diminished.

The Department of National Health and Welfare has estimated that the cost of certain identifiable consequences of cigarette smoking in Canada in 1966 was some $388 million. Lung cancer accounted for $56 million of this, coronary

disease for $201 million, chronic bronchitis for $14 million, emphysema for $7 million, other disabilities for $96 million and fires caused by smoking for $13,500,000.[62, 63]

7

THE REDUCTION OF CIGARETTE SMOKING

Action taken to deal with this problem must have two facets:

(*a*) That directed to the protection of the public;

(*b*) That directed to protecting the interests of various segments of the tobacco industry.

The overall pace of corrective action and the establishment of basic priorities must be determined by the wishes of the public. The timing of priorities within basic priorities must allow for the interests of the public and the broad ramifications of the tobacco industry.

While it is clear that cigarette sales cannot be banned at this time, it is equally clear that the production, distribution and sale of cigarettes should no longer be considered in the same light as the production, distribution and sale of other products. It seems reasonable to introduce whatever steps are feasible to progressively eliminate the promotion of cigarette sales and preparations should be made to assist growers and others affected by reductions in cigarette sales. It is also desirable to increase educational efforts to discourage cigarette smoking and to expand activities to make cigarette smoking less hazardous for those who continue to smoke.

It has been argued that if cigarette smoking is harmful, all sales of the product should be banned and, failing this, that it would be constitutionally and legally improper to interfere with its promotion. However, common sense tells us that it would not be in the public interest to prohibit cigarette sales. The cigarette stands unique among health and social problems. Therefore, society is justified in seeking unique solutions and in rejecting arguments based on technicalities. It is clearly contrary to the public interest for the use of a harmful product to be actively promoted even though a ban on production and sales would be unacceptable. There is increasing public pressure to do whatever is practicable to reduce the hazards of cigarette smoking for Canadians. This concern has been particularly expressed in connection with cigarette advertising.

It has been argued repeatedly that whether or not one smokes is a matter of free choice for mature individuals. This is true in the sense that one has the ulti-

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[62] The Estimated Cost of Certain Identifiable Consequences of Cigarette Smoking Upon Health, Longevity, and Property in Canada in 1966, Research and Statistics Memo, Department of National Health and Welfare.

[63] *One should note, however, that the over-riding consideration of the Committee and of the Government must be the health of the consumer—the current or potential Canadian smoker—and, in ensuring his protection, economic considerations are quite secondary to his well-being.*

mate responsibility for what one does to one's own body. It is equally true, however, that the basis of the widespread use of the cigarette is the dependence that one develops on smoking and everyone knows that a large proportion of cigarette sales arise from sales to persons who are unable to stop smoking. There appears to be varying degrees of dependence based on differing mixes of pharmacological, social and pyschological factors. In any case, their dependence would certainly seem to remove the freedom of choice for many cigarette smokers.

It should be noted that despite limited budgets, Canadian smoking and health programs have been gaining momentum and that large numbers of Canadians are convinced of the hazards of smoking and desire that something be done about them. [64, 65, 66, 67] It is clear, however, that the magnitude of the problem is such that something more than health education is desirable. Since voluntary action by cigarette manufacturers and others has so far not appeared to be adequate, legislation is probably required. However, it would be most desirable if the goals of society with regard to this matter could be achieved by voluntary means wherever possible.

Perhaps the most compelling reason to introduce practicable legislation to control the promotion of cigarette smoking is to bring consistency and mutual reinforcement into society's actions to deal with the problem. For example, young people can hardly be expected to believe that governments really consider cigarette smoking to be hazardous if they allow unlimited cigarette promotion. Further, large numbers of smokers wish to stop smoking or stay stopped and anything that could be done to support their resolve and reduce the pressures to smoke, which are part of our society, would be desirable.[68]

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[64] Minister of National Health and Welfare reported in 1965 that as early as 1964, 90% of Canadians were aware of the health issue associated with cigarette smoking and 60% were convinced that a definite hazard was involved.

[65] The Minister of National Health and Welfare reported in 1968 that although smoking was increasing among women, it was decreasing among adult males. He reported in 1969 that per capita cigarette consumption decreased 5% between 1966 and 1968.

[66] A survey of students from grades 3 to 13 in 1968 in the North-Western Health Unit District (Kenora) revealed that 90% of non-smokers and 80% of smokers believed smoking may have harmful effects on health. However, only 60% of non-smokers and 50% of smokers said that publicity on the possible harmful effects of smoking had decreased their inclination to smoke.

[67] The Reader's Digest in November, 1966, reported that a poll of Canadian opinion showed that a majority (65%) of Canadians believed that the amounts of tar and nicotine in cigarette smoke should be plainly stated on every package. Sixty-one per cent believed the same facts should be made plain in all cigarette advertising. Eighty-eight per cent of smokers, non-smokers and ex-smokers said "that every effort should be made to discourage young people from getting the cigarette smoking habit."

[68] The Minister of National Health and Welfare reported in 1966 that 45 per cent of regular cigarette smokers had seriously tried to quit smoking.

RECOMMENDATIONS

A. Eliminating the promotion of cigarette sales

Your Committee recommends that cigarette advertising and all other promotion of cigarette sales be progressively eliminated.

(i) *Cigarette Advertising*

Of all the recommendations made to the Committee, the strongest and most frequent appeared to be that steps be taken to control or eliminate cigarette advertising. Special concern was expressed about the effects of such advertising on children and about the importance of television advertising. In criticising television advertising of cigarettes and its effect on children, it was not always clear the witnesses were aware that, by voluntary agreement among Canadian cigarette manufacturers, there is no advertising of cigarettes on television stations in this country before 9 p.m. Presumably they were influenced by cigarette advertising carried by American television stations. The concern about television centred on its unique image-creating potential as well as the fact that one could not be selective about watching and listening to such advertisements as in the case of advertisements in printed media. Further, it has been pointed out that the use of the air waves is a special privilege granted to licensees, is already regulated by a federal authority and cannot be compared with printed advertising in quality or regulation. This has been explained in an editorial by a television station owner describing why he was discontinuing cigarette advertising on his television station but would continue to carry cigarette advertising in his newspaper as long as it was legal to do so.[69]

Evidence was given by the industry that elimination of cigarette advertising in some media, as in Britain, or in all media, as in Italy, had no apparent effect on the prevalence of cigarette smoking. Similarly, it was pointed out that in those countries where there has never been cigarette advertising on television, cigarette smoking has progressively developed.[70] In light of this, one might ask why manufacturers bother to advertise if it has no effect on cigarette sales. However, the failure to demonstrate the effects of these different situations, in no way excuses

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[69] Editorial by Mr. John Bassett, Toronto Telegram, Saturday, June 21, 1969.
[70] Minutes—No. 38—Thursday, June 5, 1969, pages 1663, 1664 and 1665.

governments from acting because, in principle, regardless of its effectiveness, it is wrong to promote a practice that impairs health. Further, the suggestion that removing advertising would be ineffective, is a strong argument for more stringent controls of cigarette promotion.

The tobacco industry provided information concerning the amounts spent on cigarette advertising in Canada.[71] This information leads one to agree that the industry has been moderate in advertising its cigarettes and that the relative amount of advertising by the industry has actually been declining in the past few years. However, no information was provided about amounts spent on other types of promotion, for example coupon and premium schemes, or sponsorship of various events.[71] The period 1962 to 1968, which was the period referred to in the industry's comments about relative amounts spent on advertising, was one during which brands offering coupons and premiums or prizes increased from 4 per cent to 24 per cent of the market.[72]

In measuring change or lack of change of one thing in connection with another, for instance the effect on cigarette consumption of the discontinuation of cigarette advertising the industry tended to assume that all other things remained unchanged. For example, in suggesting that the removal of television advertising of cigarettes in Britain had no effect on cigarette consumption, no mention was made of the possible effects of the marked increase in coupon and premium schemes which occurred following the ban.[73] To derive conclusions in such a situation one would have to control other factors which may have influenced the change or lack of change.

Similarly, for other countries, one would have to know what other things happened, if one wished to draw conclusions about the effects of a single factor like the removal of television advertising.

It was repeatedly pointed out that cigarette advertising did not promote cigarette smoking but only promoted particular brands among existing smokers.[74] However, whatever its purpose, any type of cigarette promotion implies that the use of cigarettes is desirable and presumably harmless, and a priori, adds to the cultural acceptability of smoking.[75] Therefore, by simply stating that the reason they advertise is to promote their individual brands, manufacturers cannot be automatically excused from responsibility for the effects of their promotional campaigns.

There is perhaps reason to be concerned about unilateral action to eliminate cigarette advertising on television and radio without doing so concomitantly in printed media. Nevertheless, broadcast advertising has special features which

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[71] Minutes—No. 38—Thursday, June 5, 1969, pages 1657, 1658 and 1659.

[72] Minutes—No. 38—Thursday, June 5, 1969, page 1671.

[73] Minutes—No. 38—Thursday, June 5, 1969, page 1664.

[74] Minutes—No. 38—Thursday, June 5, 1969, page 1661.

[75] The United States Court of Appeals for the District of Columbia Circuit has ruled that cigarette advertising inherently promotes cigarette smoking as a desirable habit (Nos. 21285, 21525 and 21526).

cannot be ignored. Outstanding perhaps is that the observer or listener cannot choose whether or not he is exposed to the message and it would seem at least to be in bad taste to promote the use of a harmful product under such circumstances despite the time of broadcast or the age of the audience. In addition, broadcasting comes under existing federal regulation and, because it is desirable to do whatever is practicable to reduce cigarette promotion, it is reasonable to begin with media in which such reduction is feasible. Further, a substantial amount of broadcast cigarette advertising has already been eliminated by the recent action of the Canadian Broadcasting Corporation to remove advertising of all tobacco products from radio and television and of private television stations in Toronto and Ottawa to ban cigarette advertising. The Committee believes that undue hardships would not be imposed on networks and stations by the removal of cigarette advertising.

The industry provided information showing cigarette advertising as a proportion of total national advertising in 1967. Except for week-end supplements at 9 per cent and radio at 7 per cent, cigarette advertising was well below 5 per cent of the total for any of the six media. Overall, cigarette advertising accounted for 3.7 per cent of total national advertising.[76] One could assume from this that no medium would be seriously and permanently affected by a loss of cigarette advertising revenue.

John Wakefield, a British social scientist, studied the effects of the 1965 ban on cigarette advertising on television in the United Kingdom. He reported:

1. The immediate loss of revenue by independent television companies was more than made up in the first year by increased revenue from advertisements of other products.
2. There was a switch of cigarette advertising from television to the press and an increase in the amount spent on advertising of cigars and pipe tobacco in the press and on television.
3. There was a marked increase in promotional expenditures on gift coupon schemes.
4. The proportion of smokers who used only pipes or cigars rose in all age groups of the male population, including for the first time, the 16-19 year olds.
5. The decline in cigarette tobacco consumption by men since 1960 continued in 1965 and 1966. Consumption by women rose in 1966 after falling since 1963.[77]

The broadcast advertising of cigarettes is of special concern in other countries as well. The elimination of such advertising has been proposed by the United States tobacco industry and is expected to be completed there by the end of 1970. This is particularly important to Canada because it will remove the influence of the day-time as well as night-time cigarette advertising reaching this country from the United States stations. About 70 per cent of Canadians live within signal reach

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[76] Minutes—No. 38—Thursday, June 5, 1969, page 1666.

[77] World Conference on Smoking and Health, September, 1967, A Summary of the Proceedings, page 238.

of U.S. television stations and almost all Canadians can receive American radio broadcasts.[78] Such action will also remove the possibility of United States brands sold in Canada having unfair competitive advantage over Canadian brands because of broadcasting support.

The Canadian tobacco industry told the Committee that, if Canadian companies could not advertise, U.S. brands would be supported by their U.S. television advertising reaching into Canada, while Canadian brands would have no television support.[78] A further advantage of the elimination of the United States broadcast advertising would be to make it unlikely that Canadian cigarette manufacturers, in the event of an advertising ban in Canada would use American border stations to reach the Canadian market. In light of the current American situation, including the earlier proposal of American broadcasters to phase out cigarette advertising, it is possible that the United States Federal Trade Commission and Federal Communication Commission would discourage American broadcasters from carrying any kind of cigarette advertising.

One would not expect—in the event of an advertising ban in Canada—that printed media originating in the United States would give particular competitive advantage to American brands or be used substantially by Canadian manuturers to reach the Canadian market.

Television advertising of cigarettes has been banned in Britain and in Iceland since 1965. Denmark has had a voluntary ban on the use of television, radio and cinema for cigarette advertising since 1962, and the Netherlands has had a voluntary ban on the use of television for cigarette advertising since 1964. New Zealand banned cigarette advertising on both television and radio in 1963. It is barred from television in France and Belgium and from television and radio in Czechoslovakia, Norway, Sweden, Switzerland and India. All advertising of tobacco products is prohibited in Italy and the U.S.S.R.

In Australia, the National Health and Medical Research Council has agreed that lower death rates from smoking related diseases depend on curtailment of cigarette advertising. In Norway, the Committee for Research in Smoking Habits appointed by the Norwegian Cancer Society has recommended that legislation be prepared to reduce hte volume of advertising as far in the direction of a total ban on advertising as will be practically enforceable. [79, 80, 81, 82, 83]

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[78] Minutes—No. 38—Thursday, June 5, 1969, page 1667.

[79] Minutes—No. 38—Thursday, June 5, 1969, pages 1664 and 1665.

[80] Influencing Smoking Behaviour, International Union Against Cancer, 1969.

[81] Smoking and Health Programs in Other Countries, a Report of the National Clearinghouse for Smoking and Health, United States Public Health Service, 1969.

[82] Smoking and Health Enquiry of Countries outside North America, Department of National Health and Welfare, 1969.

[83] Medical News, July 25, 1969.

Some American and Canadian publishers and broadcasters will not accept cigarette advertising. The New York Times, on August 29, 1969, announced, in an editorial urging that the requirement be made general for all forms of advertising and on all cigarette packages, that, from January 1, 1970, it will require all cigarette advertising it accepts to carry both a strong health hazard warning and a statement of tar and nicotine content.

(ii) *Coupon and Premium Schemes*

Another type of advertising of special concern is the chance provision of prizes of cash or goods to purchasers of certain brands of cigarettes. The cigarette manufacturers presented evidence to indicate that premium and coupon schemes do not make smokers smoke more.[84] However, it is surely incontestable that this form of promotion rewards smokers for using certain brands and therefore makes it desirable for non-smokers to start smoking such brands, for present smokers to continue smoking such cigarettes or to smoke more of them, and for ex-smokers to resume smoking. It is quite likely that a person becoming convinced that he or she should stop smoking for economic as much as health reasons would be swayed toward the continuation of smoking with the thought that he might obtain a substantial and quick return on the money spent for cigarettes. This type of promotion is being developed with increasing vigour in Canada with, in some instances, very large cash prizes being offered.

In Britain, following a ban on broadcast advertising there was a very large increase in promotional expenditure on gift coupon schemes. Cigarettes sold with coupons now constitute the major proportion of the British market and British manufacturers appear to be spending three times as much on coupons as they are in advertising in the mass media. In October, 1967, the government decided that legislation should be introduced to ban coupon gifts schemes, to forbid or limit certain forms of cigarette advertising and to limit expenditures on such advertising.[85]

In the 1969 Hearings on Cigarette Labelling and Advertising before the Committee on Interstate and Foreign Commerce of the United States House of Representatives, Dr. Eugene Levitt, who appeared at the request of the United States tobacco industry, testified that children were attracted to their cigarette brand by coupons.[86]

The Canadian cigarette manufacturers presented data to the Committee showing the rate of total industry change and the change in brands offering coupons, premiums or prizes in Canada and the United Kingdom. In both countries, the premium brands show steady growth while the increase in total industry volume has been much smaller and irregular. The industry said that the premium brands increased at the expense of non-premium brands and that this showed that premium schemes do not encourage smoking.[87] From the tables alone, it could be equally well argued, of course, that if it were not for the increasing appeal of

[84] Minutes—No. 38—Thursday, June 5, 1969, page 1672.

[85] Smoking and Health Programs in other countries, a report of the National Clearinghouse for Smoking and Health, United States Public Health Service, 1969.

[86] Hearings of the Committee on Interstate and Foreign Commerce House of Representatives Re Part 3, Cigarette Labelling and Advertising, 1969, page 1272.

[87] Minutes—No. 38—Thursday, June 5, 1969, pages 1671 and 1672.

premium brands, the total industry volume would have shown a substantial decline.

The industry table comparing estimated numbers of cigarettes smoked per day by persons using premium and non-premium brands does not provide a sufficient basis for conclusions.[88] Expected smoking habits vary by sex and age groups. The table does not allow for these differences.

Because of the marked increase in premium and coupon schemes following the removal of television advertising in Britain, and the fact that Canadian cigarette manufacturers are moving vigorously in the same direction, it is possible that the elimination of regular advertising in Canada could be followed by a similar shift. This, plus the possible ineffectiveness of advertising controls in other countries as pointed out by the industry, presents a strong case for the plugging of loopholes by eliminating all promotional activities but especially premium and coupon schemes. *Therefore, in planning the progressive reduction of cigarette advertising, premium and coupon schemes would, along with broadcast advertising, appear to merit first attention.*

(iii) *Free Distribution of Cigarettes*

Another means of promoting cigarette use is the free distribution of cigarettes. **Your Committee recommends therefore, that such distribution be prohibited, whether by cigarette manufacturers, transportation companies, hospital auxiliaries or others.**

Pending the complete elimination of cigarette advertising, the phasing out, as well as the quantity and quality of remaining cigarette advertising, would require attention.

Your Committee recommends that legislation be enacted to prohibit an increase above current levels of the amounts spent on cigarette advertising in any medium or all media combined. This would prevent shifts of advertising or promotion that would defeat the intent of the proposed regulation of advertising.

Your Committee also recommends that legislation be enacted to permit the promotion of brand identification only in any remaining advertising. This could be achieved by showing brand and package, if desired, with no visualization of smoking. References as to the desirability of a particular cigarette, for example, taste, flavour, filter, quality of tobacco or to such things as its widespread use should be curtailed and eventually prohibited.

Your Committee recommends that any advertising or promotional materials, remaining after one year be required to carry the same warning as that designed for use on cigarette packages and cartons and cigarette vending machines.

A proposed timetable for the progressive elimination of cigarette advertising might be as follows:

—Complete elimination of free distribution of cigarettes and all coupon and premium schemes—one year from enactment of legislation.

—No cigarette advertising on television or radio before 10 p.m.—one year from enactment of legislation.

[88] Minutes—No. 38—Thursday, June 5, 1969, page 1672.

—Warning in all remaining advertising and promotional materials—one year from enactment of legislation.

—Prohibition of cigarette advertising on television and radio—two years from enactment of legislation.

—Prohibition of other than simple brand name advertisements in remaining media—two years from enactment of legislation.

—Complete elimination of all cigarette promotional activities—four years from enactment of legislation.

To facilitate the orderly phasing out of cigarette advertisements and to regulate the quality of existing advertisements, it is recommended that the production, advertising and sale of all tobacco products be brought under a revised Tobacco Restraint Act or under the Food and Drugs Act.

B. *Increasing Educational Efforts to Discourage Cigarette Smoking*

(i) *Smoking and Health Programs*

The effectiveness of current smoking and health programs is suggested by the widespread knowledge of the hazards of smoking, by the reduction of cigarette smoking among men, by reductions in per capita cigarette consumption and by the general public concern about the cigarette smoking problem. **Your Committee recommends the continuation and expansion of existing programs in order that Canadians might be reminded of the dangers and assisted in their efforts to avoid or discontinue smoking or to smoke in less hazardous ways.**

If the objective is the eventual elimination of cigarette smoking it is important to change the image of cigarette smoking so that it becomes an undesirable and unfashionable practice. This approach is particularly important among young persons who have not yet started to smoke and to whom the health hazards of smoking appear distant.

It has been suggested that television is the most useful medium to carry out such a campaign and reports about the effectiveness of existing televised smoking and health messages bear this out. **Your Committee therefore recommends that increased efforts be directed toward the production and showing of imaginative television promos and films in general.** While modest increases in budgets for smoking and health programs would allow the production of more materials they would not ensure their showing especially on prime time television. **In order that this could be achieved, your Committee recommends that arrangements be made through the Canadian Radio-Television Commission for increased use of smoking and health commercials on television and radio as compulsory prime-time public service announcements.**

In the Committee's view these messages should not be shown in proportion to cigarette advertisements as in the United States. If this were done there would be a danger of their reduction or elimination when cigarette advertising disappears.

There is no known way to prevent young people from smoking. The problem is a complex one because children are influenced by, and cannot be isolated from, the many pressures to smoke that surround them. Nevertheless, continuing research is required to learn how children and teenagers might be helped to avoid the habit. *Increased funds should be made available to support experimental health education programs in the schools and elsewhere.*

The success of smokers' clinics and other means to assist smokers to discontinue smoking appears to be limited and one method not clearly better than any other. The essential ingredients seem to be strong motivation to stop smoking combined with the resolution to do so. The support of family, friends and society and the reduction of various pressures to smoke—cigarette advertising and the persuasion or example of friends for instance—are important ancillary factors. *Again, increased financial support of experimental programs is required.*

There is insufficient information regarding the effectiveness of various media and types of approaches in health education regarding the dangers of smoking. **Your Committee recommends that increased attention be given to surveys of public knowledge, opinion and other measures of the effectiveness of smoking and health programs.**

Coninuing co-ordination of smoking and health programs carried out by various governments as well as voluntary and professional agencies is necessary if resources are to be used to the maximum and wasteful duplication is to be avoided. **Co-ordinating committees or councils are required at national, provincial and local levels and increased efforts should be made to correct deficiencies in these regards.** A step in this direction has been taken at the national as well as some provincial levels.

(ii) *Cautionary Statements on Cigarette Packages and in Cigarette Advertisements*

The use of a cautionary statement on cigarette packages and cartons and in cigarette advertising was given high priority by groups appearing before the Committee. Testimony was given by the tobacco industry that any warning which goes beyond present scientific knowledge will create disbelief on the part of the consumer; that such warnings are unnecessary because Canadians are already highly aware of the smoking and health issue; that an overstated warning might actually attract attention to smoking, particularly by the young; and that warnings applied to products which may be potential long-term hazards if abused, tend to degrade warnings on products which are immediately and acutely dangerous. The industry went on to say that if such a warning is to be required, that it should not go beyond the present state of scientific knowledge and should be intended to inform consumers of factual matter.[89]

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[89] Minutes—No. 38—Thursday, June 5, 1969, pages 1673 and 1674.

In the Committee's view, cautionary statements on packages and in advertising would reinforce education provided by other means, would convince Canadians that governments considered the problem a serious one, and would help to solve the dilemma of not wishing to ban the sale of a product which, under other circumstances, could well be prohibited. The risks of attracting attention to smoking or of degrading warnings on other products would seem to be hypothetical rather than real. There would seem to be wide support for such a cautionary statement on the part of the general public as well as the various agencies who gave their views to the Committee.

United States experience has determined that the existing warning—"Caution—Cigarette Smoking May Be Hazardous To Your Health"—is not strong enough and more appropriate statements have been proposed.

In its report to the United States Congress on June 30, 1969 the Federal Trade Commission recommended that the following warning be included clearly and prominently on cigarette packages and in all cigarette advertising: "Warning: Cigarette Smoking is Dangerous to Health and May Cause Death From Cancer, Coronary Heart Disease, Chronic Bronchitis, Pulmonary Emphysema and other Diseases".

The United States Public Health Service has also recommended that the present warning statement be strengthened and that the proposed Federal Trade Commission warning or a suitable paraphrase of it be placed on cigarette packages, cigarette vending machines and in all advertisements.

On June 5, 1969, the United States House Committee on Interstate and Foreign Commerce recommended that the old warning be replaced with the following: "Warning: The Surgeon General Has Determined That Cigarette Smoking is Dangerous To Your Health and May Cause Lung Cancer or Other Diseases".

The national Health and Medical Research Council of Australia recommended in 1968, that the following warning label be conspicuously printed on each cigarette package: "Warning: Cigarette Smoking is Dangerous to Health".[90] Five Australian State governments have recently announced that they will in future require cigarette packages to carry a printed warning. It is understood that the Commonwealth and its territories would almost certainly follow the state's decision.[91]

A Bill to provide for the cautionary labelling of cigarette packages was read for the first time on June 10, 1969, in the British parliament. The proposed wording is: "Danger. These cigarettes can harm your health. Cigarettes are known to cause lung cancer, bronchitis, and heart disease".[92]

A warning has also been proposed by the Norwegian Cancer Society.

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[90] Report of the National Health and Medical Research Council, Australia, Sixty-sixth Session, 31 May, 1968.

[91] Medical News, July 25, 1969.

[92] British Medical Journal, June 21, 1969, page 772.

Your Committee recommends that a suitable warning be required on all cigarette packages and cartons, in all cigarette advertising and promotional materials and on all cigarette vending machines.

This warning should describe the harmful consequences of cigarette smoking in a direct and educationally effective manner and should be complemented by a statement, to be discussed later, of the constituents in cigarette smoke. The precise wording of the statement should be determined after study and consultation, including possible testing across Canada.

Possible warnings in addition to the Federal Trade Commission and Australian proposals mentioned above are:

Danger:—Cigarette Smoking Can Cause Dependency, Disease and Death.

Danger:—Cigarette Smoking Can Cause Dependency, Damage Health and Shorten Life.

Warning: Cigarette Smoking is Dangerous to Health and May Cause Death Especially from Coronary Heart Disease, Cancer and Chronic Bronchitis.

Warning: The Use of Tobacco May be Hazardous to Your Health.

Warning: Cigarette Smoking is Dangerous to Health and May Cause Death From Cancer and Other Diseases.

Suggested timing for such a warning is one year after enactment of legislation.

C. *Less Hazardous Smoking*

There is epidemiological and laboratory evidence and general agreement among experts that a reduction in total smoke exposure will be followed by a reduction in risk from diseases known to be associated with cigarette smoking.[93]

More important, perhaps, common sense tells us that the inhalation of harmful chemicals should be held to a minimum.

It is therefore reasonable to conclude that smokers who cannot stop smoking should be encouraged to use low tar, low nicotine cigarettes.

Technically, it is feasible to produce low tar, low nicotine cigarettes and there is a wide range of tar and nicotine levels among cigarettes sold in Canada[94]. These variations are achieved by selecting the types and parts of the tobacco leaf that are used as well as by filtration and length of cigarette.

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[93] Toward a Less Harmful Cigarette—National Cancer Institute Monograph 28, June, 1968, United States Public Health Service.

[94] Tar and Nicotine Levels of the Smoke of Cigarettes Sold in Canada, Department of National Health and Welfare, November 1968, and May 1969.

Differential taxation to favour switches to low tar and nicotine brands or to pipes and cigars has been proposed in other countries such as Britain.[95] Senator Robert F. Kennedy, in 1967, introduced a bill to establish a sliding tax scale on cigarettes according to tar and nicotine level.[96] The recent Report of the Committee for Research in Smoking Habits appointed by the Norwegian Cancer Society has recommended that an effort be made to introduce drastic increases in the taxation of tobacco products—smaller increases alone being assumed to be of very limited value—and to classify cigarettes for taxation in accordance with assumed harmfulness, while at the same time the most dangerous types are excluded from the Norwegian market.[97] In its recent report to the British Social Services Secretary, Mr. Richard Crossman, the Central Health Services Council recommended that a substantial differential tax in favour of cigars and pipe tobacco be imposed as the most important single measure that could be taken to reduce mortality from cigarette smoking.[98] Differential taxation has the drawback, perhaps in a reverse sense, of discriminating against the economically deprived smoker, particularly one who smokes heavily and cannot reduce his or her consumption readily.

Price differentials and advertising favouring low nicotine cigarettes have been used in Austria and shifts to such brands have occurred. About 75 per cent of the total Austrian production now consists of cigarettes with tar and nicotine levels "well below average".[99] In other countries, such as the United States and Sweden, tar and nicotine contents are published periodically as in Canada to allow consumers to select brands accordingly. There has been a world-wide shift to filter cigarettes. In Canada, filter cigarettes account for about 75% of production and it is assumed that some of this shift is for health reasons. There have been shifts to low tar, low nicotine cigarettes following publication of tar and nicotine tables in Canada. However, it is too early to make long-range projections.

There are two objectives in bringing information regarding tar and nicotine levels to the attention of the public:—

a. To encourage the avoidance of high tar and nicotine brands.

b. To encourage continuing smokers to switch to low tar and nicotine brands.

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[95] Smoking and Health—Report of the Royal College of Physicians of London (England)—McLelland Stewart, 1962.

[96] World Conference on Smoking and Health, September 1967, A Summary of the Proceedings.

[97] Influencing Smoking Behaviour—International Union Against Cancer—1969 Page 62.

[98] Medical News, July 18, 1969, page 16.

[99] Smoking and Health Programs in Other Countries, A Report of the National Clearinghouse for Smoking and Health, United States Public Health Service, January 1969.

(i) *Maximum Tar and Nicotine Levels*

The avoidance of higher tar and nicotine brands, whether they be long cigarettes or particularly strong cigarettes, can be accomplished by establishing maximum levels of tar and nicotine for all cigarettes sold in Canada. In establishing such maximums it must be borne in mind that there are no "safe" levels of tar and nicotine and they are therefore simply devices to reduce the total daily exposure of smokers to these substances. Maximum levels can therefore be determined, not by any scientific means, but rather by what is acceptable to most smokers. Further, such maximums, if adopted, should be set at moderate levels and progressively reduced as tolerated by society and technologically feasible. For example, levels should not be set which might encourage illegal manufacture or smuggling or which might create drastic changes in leaf tobacco purchases before adjustments have been made in research and growing practices.

Your Committee recommends that, within two years, Canadian cigarette manufacturers discontinue the production of cigarettes exceeding specified maximums of tar and nicotine content.

The adoption of such maximums would require consultation between growers, manufacturers, and government. A working group could be formed to represent the various interests and to establish the feasibility and timing of the initial maximums and to determine the levels and timing for subsequent progressive decreases. Lower maximums for filter cigarettes than for other cigarettes are technically feasible and would protect those who assume that all filter cigarettes are automatically lower in tar and nicotine levels than non-filter cigarettes. This assumption is, of course, unfounded.[100] Reduced maximums for filter cigarettes would affect three out of four cigarettes sold in Canada.

(ii) *Publication of Tar and Nicotine Tables*

Your Committee recommends that the Department of National Health and Welfare continue to publish current tables of the tar and nicotine levels of the smoke of cigarettes sold in Canada. This would allow customers to choose brands at the various levels below the maximums and would create pressures for cigarettes increasingly lower in tar and nicotine.

(iii) *Statements of Cigarette Smoke Constituents*

Your Committee recommends that all cigarette packages and cartons, cigarette advertising and promotional materials and cigarette vending machines be required to carry government-authorized statements of tar and nicotine levels. This should

[100] Tar and Nicotine Levels of the Smoke of Cigarettes Sold in Canada, Department of National Health and Welfare, November, 1968 and May, 1969.

be required one year after the enactment of legislation. It is desirable to have this information on cigarette vending machines because consumers are unable to examine packages before purchase.

This legislation would permit consumers to readily determine the tar and nicotine levels of their brands and would also serve to reinforce the warning described in B. Such legislation should be flexible enough to permit the Department of National Health and Welfare to make regulations concerning a statement of the constituents of the gas phase of cigarette smoke, or of particular substances in the particulate or gas phase, or of general properties of the smoke. The general properties might include a statement to the effect that cigarette smoke contains cancer producing chemicals, irritants, nicotine, carbon monoxide and other toxic substances.

About 13 per cent of cigarettes consumed in Canada are of the hand-rolled variety.[101] The need for information or standards concerning fine cut tobaccos should therefore be considered when establishing maximum levels of tar and nicotine, publishing tables of tar and nicotine contents or preparing legislation regarding statements of tar and nicotine levels.

The United States Federal Trade Commission recommended to Congress on June 30, 1969, that legislation be enacted to require a statement setting forth the tar and nicotine content of each cigarette on the package and in all cigarette advertising.[102] The United States Public Health Service has supported the above but also recommends that the tar and nicotine levels be stated on cigarette vending machines and that authorization be given to add other harmful agents to this listing as desirable.[103]

Australian federal and State health ministers agreed in June, 1969, to recommend to their governments that cigarette packages be labelled with tar and nicotine levels.[104]

(iv) *Other Ways to Reduce The Hazards of Cigarette Smoking*

Your Committee recommends the wide promotion of the following measures to reduce the intake of cigarette smoke constituents, gases as well as tar and nicotine, by continuing cigarette smokers:

—Using low tar, low nicotine cigarettes
—Lengthening the period between cigarettes
—Lengthening the period between puffs
—Not inhaling

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[101] Cigarette Consumption in Canada, Department of National Health and Welfare, July 15, 1969.

[102] Federal Trade Commission, Report to Congress Pursuant to the Federal Cigarette Labelling and Advertising Act, June 30, 1969.

[103] Report on Public Health Cigarette Smoking Act of 1969, United States House of Representatives, Report No. 91-289.

[104] Medical News, July 25, 1969.

—Removing the cigarette from the mouth after each puff
—Throwing away a very long butt.[105]

(v) *Pipe and Cigar Smoking*

Pipe and cigar smoking, without inhalation, appear to be less hazardous than cigarette smoking although there is insufficient information regarding the effects of switching from cigarettes to pipes or cigars. Some cigarette smokers may continue to inhale on switching to pipes and cigars.

Nevertheless, the Committee is inclined to view pipe and cigar smoking as an alternative to cigarette smoking but would not recommend these practices. They do provide an "out" which is probably less hazardous for the cigarette smoker who cannot stop smoking altogether.

The Committee is not inclined to recommend the restriction by legislation of the advertising of pipes and cigars. It is noted, however, that the Canadian Broadcasting Corporation has announced the termination of all tobacco advertising when present contracts expire, a practice which the Committee recommends. Such action is desirable for two reasons. First, pipe or cigar smoking is still smoking to the child who may be influenced by broadcast advertisements especially television. Secondly, pipe tobaccos and cigars might assume the names of cigarettes if cigarette advertising disappears thus allowing continuing promotion of cigarette brands.

(vi) *Research Into Less Hazardous Products and Ways to Smoke*

While, on the basis of current knowledge, emphasis should be given to tar and nicotine levels, the gas phase of the smoke should not be overlooked. Provision must be made for continuing research to learn more about ways that smoking might be made less hazardous for those who cannot stop. Means should also be established to ensure that the findings of such research are quickly applied to tobacco and cigarette production whenever feasible.

Cigarette manufacturers would appear to have the major responsibility of such research and development because of their implied responsibility to consumers for the quality of their product. However, governments should be closely involved, bearing in mind the varying interests of departments of health, agriculture and industry and commerce.

Your Committee recommends that research into less hazardous products and ways to smoke be increased and that the Department of National Health and Welfare and the Department of Agriculture stimulate such research within government as well as by cigarette manufacturers and universities.

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[105] Tar and Nicotine Levels of the Smoke of Cigarettes sold in Canada, Department of National Health and Welfare, November 1968, and May 1969.

Because of the large number of substances found in tobacco smoke the identification and alteration or removal of individual harmful components would not seem as promising as the development of products or methods of smoking which substantially reduce overall exposure to smoke or exposure to major fractions such as tar or gases. Reduction of tar and nicotine, for example, reduces the level of all the particular matter in the smoke and, thereby, the level of several cancer-producing and irritating chemicals. Methods of smoking described in (iv) can reduce overall exposure to smoke.

The Committee is impressed by studies which have noted that lung cancer incidence in certain countries seems to increase when a country changes the tobacco of its cigarettes from an oriental (low-sugar) type to a flue-cured (high-sugar) type. It has also demonstrated experimentally that cigar tobacco and low-sugar tobacco are much less harmful to the respiratory system of rats than ordinary English cigarette tobacco which has a high-sugar content.[106]

Your Committee is of the opinion that further research should be carried out to determine whether alterations in tobacco growing and curing might reduce the hazards of smoking. The possible effects of the additives used in the preparation of cigarette tobaccos require further study as well. Insufficient information regarding these matters has been provided by industry representatives or others.

Your Committee also suggests that efforts be made to reduce the inhalability of cigarette smoke and to discover ways that less of each cigarette would be smoked. It has been suggested that a red line be placed on each cigarette to remind the smoker to extinguish it before the concentrated tar and nicotine at the butt end is reached. Other suggestions have included the use of overwraps to automatically extinguish the cigarette at a certain point. [107, 108, 109]

D. *Miscellaneous*

(i) *The Identification of Those Who Have Been Harmed, Or Have A Particular Risk of Being Harmed, by Smoking*

Evidence has been given to the Committee that it would be worthwhile to conduct screening programs to detect those who have been harmed by smoking. Dr. Normand C. Delarue suggested that periodic Chest X-Rays of smokers over forty would permit early changes to be detected.[110] L'Association des Médecins de langue française du Canada recommended screening clinics to detect early

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[106] British Empire Cancer Campaign for Research, Annual Report, 1967, Part II, page 26.

[107] World Conference on Smoking and Health, September, 1967, A Summary of the Proceedings.

[108] National Health and Medical Research Council of Australia—Sixty sixth Session—1968.

[109] Brief to the Committee presented by the Minister of National Health and Welfare, December 19, 1968.

[110] Minutes—No. 20—Thursday, February 27, 1969, page 661.

respiratory and cardiovascular disease in smokers.[111] It was, however, the opinion of experts that wide-scale examination of sputa for cancer cells or evidence of other changes in the lining of the bronchial tubes of smokers was not practical because of the number of specimens required for each examination, the large numbers of smokers, and the shortage of cytotechnicians and pathologists.[112, 113]

Your Committee recommends increased experimentation in provision of such screening services and the early adoption into general medical and public health practice of those methods that are effective and efficient.

Particular attention should be given to smokers whose risk is increased by additional occupational or other hazards. The recognition that there are multiple risk factors for coronary heart disease, the leading cause of death in Canada, and that these risks are additive, underlines the importance of screening and counselling to determine those with special reason to discontinue smoking or to change their patterns of diet and physical activity.

It would be expected that such screening and counselling would be carried on as part of the normal practices of medicine and public health. *However, experimentation should be undertaken to determine whether special counselling services and specially trained workers would be useful adjuncts to conventional services in helping people to stop smoking or to change dietary or physical activity patterns.* It is reasonable to assume that if such risk counselling services become widespread, they would create a considerable demand on health manpower.[114]

(ii) *The Exemplar Role*

The exemplar role of parents, teachers, physicians, nurses, community leaders and other adults has been repeatedly stressed and there is much room for improvement here. The myth that cigarette smoking is for adults only, naturally makes smoking more desirable to young people. For this reason, the Federal Tobacco Restraint Act and its provincial equivalents are not helpful legislation. In addition, these laws are difficult to enforce. Perhaps, the best thing that can be said about them is that they form the bases upon which future legislation can be developed. However, it must be recognized and announced that cigarette smoking is not a desirable practice for any person of any age.

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[111] Minutes—No. 44—Thursday, June 19, 1969, page 1989.

[112] Minutes—No. 19—Tuesday, February 25, 1969, page 623.

[113] Minutes—No. 20—Thursday, February 27, 1969, page 662.

[114] We understand that a special smoking withdrawal service is already in operation at the Royal Edward Chest Hospital, Montreal.

This is obviously a complex matter with no easy solution because of the disparities between adult practices and their desires to see young people avoid cigarette smoking. It can only be solved as—within a general climate of disapproval of smoking—the adult strives to stop smoking and enlightened young people strive to keep from starting, and both gradually succeed in their endeavours.

Your Committee wishes to commend teachers, nurses, physicians, and others such as the Canadian Home and School and Parent Teacher Federation for their continuing endeavour to maintain and encourage the important exemplar role.

(iii) *Non-Smoking Areas*

Your Committee recommends that, out of consideration for the majority of Canadians who do not smoke, a gradually increasing number of no smoking areas or sections be provided in places or facilities used by the general public.

There seems to be increasing public recognition that the rights of non-smokers may be infringed by smoking which takes place in restaurants, elevators, public transport vehicles and other public places or facilities.

(iv) *The Ready Availability of Cigarettes*

Cigarette vending machines have been removed and cigarette sales discontinued in some Canadian hospitals.

Your Committee recommends that hospitals, health departments and other health services and facilities consider the feasibility of discontinuing cigarette sales because of their inconsistency with health objectives and because of approval of cigarette smoking which is implied by their continuation.

The Committee also notes that unsupervised cigarette vending machines may circumvent the provisions of the Tobacco Restraint Act facilitating sales of cigarettes to minors.

Your Committee recommends that cigarette vending machines be placed only where they can be under continuing observation by responsible persons, and that prominent display of cigarettes be discouraged.

E. *Assistance to Tobacco Growers and Workers in the Tobacco Industry*

In determining the timing of the various measures proposed above, the Committee is aware of the serious economic repercussions which may result in their implementation: such as displacement and retraining of manpower, conversion of land to other use, changes in the pattern of the economy of some areas, etc. Progressive adjustments will have to be made. It is important that plans be made to assist growers and workers affected by such changes.

The Committee cannot agree with those who say that the Department of Agriculture should discontinue its tobacco research activities or its advice to tobacco farmers. Rather, it is to be hoped that the service will continue but give special emphasis to the production of tobacco required for the production of less hazardous cigarettes. The excellent resources of the Department of Agriculture would lend themselves admirably to collaborative research with the Department of National Health and Welfare and interested universities into the broad question of less hazardous cigarettes.

Therefore, your Committee recommends that the departments of Regional Economic Expansion, Agriculture, Manpower and Immigration, Industry, Trade and Commerce, and National Health and Welfare co-ordinate their efforts to assist the tobacco growers and workers in the tobacco industry to adjust to the major changes which will eventually develop.

F. *Fires caused by Smoking*

Mr. R. A. Switzer, Dominion Fire Commissioner reported to the Committee that the smoking of cigarettes, cigars and pipes is the leading cause of fires and fire deaths in Canada and the United States.[115] The disfigurement and suffering due to non-fatal burns is also a serious problem.

Mr. Switzer said that there are two basic reasons for the large number of fires caused by careless smoking:

1. The need for matches or cigarette lighters to ignite the smoking material.
2. The inherent "fuse" characteristics of the factory-made cigarette which enables it to continue to burn even though it is left unattended. This "fuse" characteristic causes cigarettes to ignite combustible materials with which they come in contact.

Of the two basic causes the free burning, or "fuse" characteristic of a cigarette is the one which is the most dangerous from a fire hazard point of view. Mr. Switzer commented that the free-burning characteristic of a factory-made cigarette, as distinct from the hand-rolled cigarette, is one which has been investigated by numerous agencies but to his knowledge no action has been taken by either the cigarette manufacturers, or regulatory bodies having jurisdiction, to eliminate this inherent hazard of the cigarette.

Your Committee supports the recommendations of the Dominion Fire Commissioner that:

1. A stepped-up program of public education be undertaken to bring to the attention of all Canadian citizens the hazards and consequences of careless smoking habits.
2. The tobacco industry be encouraged to reduce the "fuse" effect of the cigarette.

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[115] Minutes—No. 19—Tuesday, February 25, 1969, page 631.

3. Improved legislation be enacted to reduce the probability of a careless smoker causing a fire which would endanger the life and property of others, for example, in places of public assembly, large stores, elevators and emergency exits.

Your Committee recommends that the National Research Council undertake studies in cooperation with tobacco companies to develop standards for cigarettes with respect to their "fuse" effects. It further recommends that these standards be the basis for subsequent legislation.

G. *Finally, the Committee recommends that all levels of governments be urged to implement the recommendations contained in this report on matters falling within their jurisdiction*

I—SUMMARY OF RECOMMENDATIONS

A. *Eliminating the promotion of cigarette sales*

—"Freeze" on cigarette promotional expenditures—immediate.

—Complete elimination of free distribution of cigarettes and of all coupon and premium schemes—one year from enactment of legislation.

—No cigarette advertising on television or radio before 10 p.m.—one year from enactment of legislation.

—Warning in all remaining advertising and promotional materials—one year from enactment of legislation.

—Prohibition of cigarette advertising on television and radio—two years from enactment of legislation.

—Prohibition of other than simple brand name advertisements in remaining media—two years from enactment of legislation.

—Complete elimination of all cigarette promotional activities—four years from enactment of legislation.

B. *Increasing Educational Efforts to Discourage Cigarette Smoking*

(i) *Smoking and Health Programs*

—The continuation and expansion of smoking and health programs.

—Increased production and showing of television promos and films in general.

—Increased use of smoking and health commercials on television and radio as compulsory prime-time public service announcements.

—Increased financial support of experimental health education programs in the schools and elsewhere, designed to assist young people to avoid cigarette smoking.

—Increased financial support of experimental programs designed to assist cigarette smokers to discontinue smoking.

—Increased surveys of public knowledge, opinion and other measures of the effectiveness of smoking and health programs.

—Increased efforts to develop smoking and health coordinating committees at national, provincial and local levels.

(ii)

—A warning on all cigarette packages and cartons, in all cigarette advertising and promotional materials and on all cigarette vending machines—one year from enactment of legislation.

C. *Less Hazardous Smoking*

—Within two years, Canadian cigarette manufacturers discontinue the production of cigarettes exceeding specified maximums of tar and nicotine content.

—Continued publication of tables of tar and nicotine levels of the smoke of cigarettes sold in Canada.

—Government-authorized statements of tar and nicotine levels on all cigarette packages and cartons, in cigarette advertising and promotional materials and on cigarette vending machines—one year from enactment of legislation.

—Wide promotion of measures designed to reduce the intake of cigarette smoke constituents by continuing cigarette smokers.

—Increased research into less hazardous products and ways to smoke.

D. *Miscellaneous*

—Increased experimentation in the provision of screening and counselling services for those who have been harmed or are at particular risk of being harmed by smoking.

—Experimentation to determine whether special counselling services and specially trained workers would be useful adjuncts to conventional services in helping people to stop smoking or to change dietary or physical activity patterns.

—Commendation of teachers, nurses, physicians and others such as the Canadian Home and School and Parent Teacher Federation for their continuing endeavour to maintain and encourage the important exemplar role.

—Out of consideration for the majority of Canadians who do not smoke, a gradually increasing number of no smoking areas or sections be provided in places or facilities used by the general public.

—That hospitals, health departments and other health services and facilities consider the feasibility of discontinuing cigarette sales because of their inconsistency with health objectives and because of the approval of cigarette smoking which is implied by their continuation.

—That cigarette vending machines be placed only where they can be under continuing observation by responsible persons and that prominent display of cigarettes be discouraged.

E. *Assistance to Tobacco Growers and Workers in the Tobacco Industry*

That the departments of Regional Economic Expansion, Agriculture, Manpower and Immigration, Industry, Trade and Commerce, and National Health and Welfare co-ordinate their efforts to assist the tobacco growers and workers in the tobacco industry.

F. *Fires Caused By Smoking*

That the National Research Council undertake studies in cooperation with tobacco companies to develop standards for cigarettes with respect to their "fuse" effects and that these standards be the basis for subsequent legislation.

G. *That all levels of governments be urged to implement the recommendations contained in this report on matters falling within their jurisdiction*

II—SUMMARY OF LEGISLATION RECOMMENDED

a. *Immediate* "Freeze" on cigarette promotional expenditures.

b. *One year from enactment of legislation*

—Complete elimination of free distribution of cigarettes and of all coupon and premium schemes.

—No cigarette advertising on television or radio before 10 p.m.

—Warning on all cigarette packages and cartons, in all cigarette advertising and promotional materials and on all cigarette vending machines.

—Government-authorized statements of tar and nicotine levels on all cigarette packages and cartons, in all cigarette advertising and promotional materials and on all cigarette vending machines.

c. *Two years from enactment of legislation*

—Prohibition of cigarette advertising on television and radio.

—Prohibition of other than simple brand name advertisements in remaining media.

d. *Four years from enactment of legislation*

—Complete elimination of all cigarette promotional activities.

e. *Date of effect unspecified*

—Cigarette vending machines be placed only where they can be under continuing observation by responsible persons and that prominent display of cigarettes be discouraged.

—Establishment of standards for cigarettes with respect to "fuse" characteristics.

A copy of the relevant Minutes of Proceedings and Evidence (Issues Nos. 1 and 2) is tabled.

Respectfully submitted,
GASTON ISABELLE,
Chairman.